N080-630 ERIC REPORT RESUME

ED 010 085 10-05-66 24
SOCIAL SCIENCE EDUCATION CONSORTIUM--RESEARCH AND DEVELOPMENT FOR GRADES K-12.
MORRISSETT, IRVING * AND OTHERS
GKF22820 PURDUE UNIV., LAFAYETTE, IND.
BR-5-0619
24-JUN-66 OEC-6-10-327
EDRS PRICE MF-$0.81 HC-$20.12 503P.

*SOCIAL SCIENCES, *CURRICULUM DEVELOPMENT, *CURRICULUM RESEARCH, *RESEARCH METHODOLOGY, CONFERENCES, LAFAYETTE, INDIANA

THE REPORT IS AN EXTENSION AND CONTINUATION OF THE SOCIAL SCIENCE EDUCATION CONSORTIUM WHICH EXPLORED WAYS OF OBTAINING GREATER COOPERATION AND COMMUNICATION AMONG THE VARIOUS EDUCATORS WHO ARE CONCERNED WITH CREATIVE INNOVATION IN SOCIAL SCIENCE EDUCATION. THE FOUR PARTS OF THIS REPORT CONTAIN (1) CONTENT FOR SOCIAL SCIENCE EDUCATION--A CONFERENCE REPORT ON CONCEPTS AND STRUCTURE IN THE NEW SOCIAL SCIENCE CURRICULA, (2) THE TEACHER--A SURVEY OF SOCIAL STUDIES CURRICULA AND TEACHING, CLASSROOM RESEARCH ON SUBGROUP EXPERIENCES IN A U.S. HISTORY CLASS, (3) VALUES IN THE CLASSROOM--MORALITY, VALUES CLAIMS IN THE SOCIAL SCIENCES, STUDENT VALUES AS EDUCATIONAL OBJECTIVES, AND (4) THE METHODOLOGY OF EVALUATION. THE FIRST PART OF THIS FINAL REPORT IS OE-5-10-174 (ED010086) AND CONTAINS THE BACKGROUND AND RESULTS, COMMUNICATION AND LIAISON, CHILD DEVELOPMENT AND SOCIAL SCIENCE EDUCATION, AND OTHER REPORTS OF CONTENT FOR SOCIAL SCIENCE EDUCATION. THE TWO REPORTS SHOULD BE READ TOGETHER FOR A COMPLETE PICTURE OF THIS PERIOD OF DEVELOPMENT OF THE CONSORTIUM. (GC)

ED010085

5-0

SOCIAL SCIENCE EDUCATION CONSORTIUM: RESEARCH AND DEVELOPMENT FOR GRADES K-12

COOPERATIVE RESEARCH PROJECT
NO. OE-6-10-327

Irving Morrissett, Director
Purdue University

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education
This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated do not necessarily represent official Office of Education position or policy.

SOCIAL SCIENCE EDUCATION CONSORTIUM:

RESEARCH AND DEVELOPMENT FOR GRADES K-12

6/24/66
WH

SOCIAL SCIENCE EDUCATION CONSORTIUM:
RESEARCH AND DEVELOPMENT FOR GRADES K-12

Cooperative Research Project No. OE-6-10-327

Irving Morrissett, Principal Investigator

Members of the Executive Committee of the
Social Science Education Consortium:

Ronald Lippitt, Chairman
Institute for Social Research
University of Michigan

Irving Morrissett, Director
Economics Department
Purdue University

Wilbur B. Brookover
Social Science Teaching Institute
Michigan State University

David Easton
Political Science Department
University of Chicago

Michael Scriven
History and Philosophy of Science
Indiana University

Lawrence Senesh
Economics Department
Purdue University

6/24/66

Purdue University
1965-66

The research reported herein was performed pursuant to a contract with the United States Department of Health, Education and Welfare, Office of Education, under the provisions of the Cooperative Research Program.

FOREWORD

The work reported here, covering a short period at the end of 1965 and the beginning of 1966, was an extension and continuation of Cooperative Research Project OE-5-10-174. Taken together, the two reports describe a period of development from August 1964 through March 1966 in which the Social Science Education Consortium explored ways of obtaining greater cooperation and communication among the various kinds of people who are concerned with creative innovation in social science education--including classroom teachers, curriculum directors, school administrators, university educators and social scientists.

Since the parts of this report were produced at different times and not in the sequence given here, pagination is not consecutive. A system of colored title pages has been used to guide the reader, as indicated in the Table of Contents.

SOCIAL SCIENCE EDUCATION CONSORTIUM:

RESEARCH AND DEVELOPMENT FOR GRADES K-12

Cooperative Research Project No. OE 5-10-327

Irving Morrissett, Principal Investigator

Members of the Executive Committee of the
Social Science Education Consortium:

Ronald Lippitt, Chairman
Institute for Social Research
University of Michigan

Irving Morrissett, Director
Economics Department
Purdue University

Wilbur B. Brookover
Social Science Teaching Institute
Michigan State University

David Easton
Political Science Department
University of Chicago

Michael Scriven
History and Philosophy of Science
Indiana University

Lawrence Senesh
Economics Department
Purdue University

Purdue University
1965-66

The research reported herein was performed pursuant to a contract with the United States Department of Health, Education and Welfare, Office of Education, under the provisions of the Cooperative Research Program.

FOREWORD

The work reported here, covering a short period at the end of 1965 and the beginning of 1966. was an extension and continuation of Cooperative Research Project OE 5-10-174. Taken together, the two reports describe a period of development from August 1964 through March 1966 in which the Social Science Education Consortium explored ways of obtaining greater cooperation and communication among the various kinds of people who are concerned with creative innovation in social science education--including classroom teachers, curriculum directors, school administrators, university educators and social scientists.

Since the parts of this report were produced at different times and not in the sequence given here, pagination is not consecutive. A system of colored title pages has been used to guide the reader, as indicated in the Table of Contents.

TABLE OF CONTENTS

Color of Title Page

Foreword i

Table of Contents ii

Report of Activities 1

Content for Social Science Education

Concepts and Structure in the New Social Science Curricula--A Conference Report . . . . Blue

The Teacher

Survey of Social Studies Curricula and Teaching . . . . Pink

A Comparative Cultures Approach to Teaching Vocational and Citizenship Education in 9th Grade Social Studies

Classroom Research on Subgroup Experiences in a U.S. History Class . . . . Golden

Values in the Curriculum

Morality . . . . Green

Value Claims in the Social Sciences . . . . Buff

Student Values as Educational Objectives . . . . Blue

Evaluation

The Methodology of Evaluation . . . . Pink

REPORT OF ACTIVITIES

Conference

A conference on "Concepts and Structure in the New Social Science Curricula" was held at Purdue University on January 29-30, 1966. The principle purpose of the conference was to get social science curriculum project people together to exchange views on a particular aspect of project work, namely, how they go about selecting and conceptualizing the content for their curriculum materials.

A majority of the major academically-based social science education projects in the country were represented at the conference. In addition, there were classroom teachers, curriculum directors, principals, university educators and social scientists. Enthusiasm on the part of conference participants, both to the invitations and in post-conference communications, indicate the important need served by the conference.

A report of the talks given and the discussions at the conference is included in this report.

Values in the Curriculum

This contract permitted continuation and completion of work being done by the Consortium on the place of values in the classroom and in social studies curricula. Included in this report are three papers by Professor Michael Scriven of Indiana University. The first, "Morality," is on the fundamental bases of ethical behavior, with particular emphasis on the relationship between ethics and rationality.

Professor Scriven's second paper is on "Value Claims in the Social Sciences," and applies the position established in his first paper to the particular question of how values and ethics are related to the social sciences. His third paper, "Student Values as Educational Objectives," deals with the relationship of value claims in the social sciences to values and ethics in education.

In connection with the research and writing of these reports, Professor Scriven has done some preliminary work on methods to be used in incorporating in curriculum materials his approach to values.

The Teacher

Work was completed on several activities related to classroom teaching of the social studies.

A pilot survey of social studies curricula, teaching methods, teachers' attitudes and teacher preparation was conducted by the Social Science Teachin Institute at Michigan State University, under the direction of Professor Wilbur Brookover, Director of the Institute. Development of instruments for a national survey was completed, and efforts are being made by the Institute to secure financing for such a survey. A report on the pilot work is included in this report.

Also at the Social Science Teaching Institute at Michigan State, partial support was given to an experimental program in the use of comparative cultures to teach vocational and citizenship education. A brief report on that work is included below.

At the University of Chicago, under the direction of Professor Thelen, several experiments in United States History classes were done to determine the relative efficacy of different modes of motivating students to organize and undertake academic tasks. The research was carried out by Keith Elkins and Martha Porter, whose reports are included below.

Evaluation

A research paper on "The Methodology of Evaluation" by Professor Michael Scriven of Indiana University, previously completed, was produced for general dissemination under this contract. The paper is included in this report.

Teacher-Intern

The Consortium's teacher-intern program was continued under this contract. Mr. W. W. Stevens, a social studies teacher from Homewood Flossmoor (Illinois) High School, is spending the current academic year with the SSEC, visiting curriculum projects to talk about their work and the work of the Consortium, analyzing curriculum materials, and participating in much of the ongoing work of the Consortium.

It was possible for Mr. Stevens, under this contract, to visit several work sites of interest to the Consortium. One was to the Merrill-Palmer Institute for Human Development and Family Life, in Detroit, to talk with the staff there about their applications of work done for the Consortium to classroom experimentation. Another visit was to the Birmingham, Michigan Schools, where a team of social scientists and educators, organized with the assistance of the Consortium, is working with the social studies supervisor to revise the curriculum. A third visit was to the Curriculum Development Center at the Carnegie Institute of Technology.

Mr. Stevens has also made two visits to his school during this period, to talk with the people in his department about his work with the Consortium.

Dissemination

A major part of the work of producing the results of Consortium activities for general dissemination was accomplished during the period of this contract. Sixteen reports, totalling about 850 pages, are being distributed to curriculum projects, teachers, curriculum committees and others interested in the work of the Consortium.

Newsletter

The principal means of disseminating information about the availability of Consortium materials is the current newsletter, financed by this grant, which describes all of the sixteen available reports. The newsletter also contains a lead article on "Values in the Curriculum," which grew out of Professor Scriven's work for the Consortium, and several shorter articles of general interest for social science education.

The newsletter is distributed to a regular mailing list of about 1000 persons, most of whom are on the list by request and a number of whom receive multiple copies for distribution within their schools or departments. A special mailing of the newsletter to social studies educators not on the mailing list is being sent.

CONCEPTS AND STRUCTURE IN THE NEW SOCIAL SCIENCE CURRICULUM

A Report on a Conference at
Purdue University

January 29-30, 1966

PREFACE

This publication is a report of a conference held at Purdue University on January 29-30, 1966, supported in part by a developmental contract of the United States Office of Education, made with Purdue University for the Social Science Education Consortium.

I.M.

March 1966

FOREWORD

Most of the new social science curriculum projects have begun their work with an intensive and sometimes prolonged study of the subject matter to be included in the curriculum. A number of outstanding scholars in the various social sciences have participated in these inquiries. The subject matter that has been analyzed and selected for use in the curriculum is often referred to as "Concepts," "Fundamental Ideas," "Basic Concepts," "System of Concepts," "Structure," and "Structure of Disciplines."

School curriculum committees and educators have for many years undertaken a similar task, publishing dozens of "Scope and Sequence" charts and hundreds of lists of "Understandings." But the new professionally-oriented and discipline-oriented projects, staffed in part and aided extensively by social scientists, financed by government agencies and foundations, and intent upon a more academic approach to social studies, have thus far published very few of their "Understandings." (A notable exception is Roy A. Price, Gerald R. Smith, and Warren L. Hickman, Major Concepts for the Social Studies, Social Studies Curriculum Center, Syracuse University, 1965.)

There is, of course, a question as to whether "Understandings," "Concepts," or "Structure" should be an explicit element in the construction and presentation of curriculum materials. Some have felt that such an emphasis leads to atomization, dehydration and stultification--a diversion from the "Processes," "Discovery," "Inquiry," and "Mature Understanding" that many projects stress.

On the other hand, most projects have felt the necessity for exploring at the beginning of their work the content to be included in their curricula. Without prejudging the question of whether concepts or structure should be an explicit part of either classroom materials or teacher-training materials, the Social Science Education Consortium has felt that there could be great value in an early exchange of ideas among project workers about approaches taken to social science content in the new curricula. Such an exchange was the task proposed for the conference reported here, in the hope that it will contribute to the improvement of the large and growing amount of academically-based curriculum work, by cross-fertilization of disciplines and projects and by sharpening both hindsight and foresight on the best approaches to curriculum content.

Speakers for the conference were selected to represent a broad range of subjects and a number of diverse approaches to curriculum content. A historian and a geographer spoke about new developments in their own fields, and considered the question of whether the broadening curriculum activities of all the social sciences are competitive with or complementary to their own long-established places in the curriculum. Five persons who have worked intimately with creative projects based primarily or entirely on non-traditional social studies content presented their approaches to concepts and structures.

Experts from two important complementary disciplines contributed to the conference. Two philosophers of science brought their expertise to bear on the conference discussions of "Concepts," "Structure of Knowledge," "Facts," and "Values." A child development psychologist analyzed the conference discussion in the light of what he and his colleagues know about the sequencing and acquisition of "Concepts" and the learning of "Structure."

Responses to our invitations to the conference were enthusiastic, and reactions of participants after the conference, both verbal and written, were still more enthusiastic. I think these responses can be attributed largely to the great need that is felt for confrontations of the kind that were possible at the conference--among curriculum project people, social scientists, university educators, teachers, curriculum directors and school administrators. I hope this record of the meeting has captured, in readable form, both the expositions and the confrontations that made the conference both rich and memorable for those who attended it.

Providing a record of the conference discussions posed the greatest problem for the editor. The decision to present it in dialogue form was influenced primarily by his reluctance to bury colorful phrases and clashing opinions in indirect discourse. The price of this color is paid in occasional discontinuities that shoot off like tracks in a cloud chamber. But as conference chairman, the editor was able to exercise some ad hoc control over the discussion, and as editor he could add post hoc control--mostly to reduce the volume of words, to a lesser extent to rearrange content.

I am grateful to several conference participants for their assistance in editing various parts of the proceedings. The time available before it was necessary to complete this report was not sufficient to allow the speakers to revise and edit their talks as some would have liked, nor to have the discussion chapters reviewed by participants. The editor assumes full responsibility for all of the things reported herein which participants did not say, did not mean, or wish they had not said.

March 1966 Irving Morrissett

CONFERENCE PARTICIPANTS

Samuel Arbital, Curriculum Coordinator
History and Social Sciences
Board of Education, City of New York

Donald Austin, Principal
Leavitt Avenue Elementary School
Flossmoor, Illinois

James Barth, Professor
Education Department
Purdue University

Harold Berlak, Assistant Director
Metropolitan St. Louis Social Studies Center
Washington University

Betty Cacioppo, Teacher
University of Chicago Laboratory School

William Crowder, Professor
Education Department
Purdue University

Katherine Elbring, Secretary
Social Science Education Consortium

Mary Endres, Director
Purdue Educational Research Center

Raymond English, Program Director
Greater Cleveland Social Science Program

Joseph Featherstone, Research Associate
Educational Services, Incorporated

Herbert Feigl, Director
Minnesota Center for Philosophy of Science
University of Minnesota

Edwin Fenton, Co-Director
Carnegie Tech Curriculum Development Center

William Gardner, Director
Minnesota National Laboratory
University of Minnesota

John S. Gibson, Acting Director
Lincoln Filene Center
Tufts University

Jack Grantham, Professor
Social Studies Division
Indiana State University

Peter Greco, Professor
Geography Department
Syracuse University

Robert Hanvey, Director of
Curriculum Research
Anthropology Curriculum
Study Project

William Hering, Jr.
Assistant to the Director
Sociological Resources for
Secondary Schools

Robert Horton, Professor
Economics Department
Purdue University

Oscar Jarvis, Elementary
Curriculum Specialist
Anthropology Curriculum Project

Sylvia Jones
Secondary Social Studies Teacher
Oxford, England

Robert Jozwiak, Principal
Burtsfield Elementary School
West Lafayette, Indiana

Ella Leppert, Director
Social Science Curriculum Center
University of Illinois

Edward Lerner
Social Studies Editor
Science Research Associates

Robert McNee, Head
Department of Geography
University of Cincinnati

Ann Manheim, Junior Editor
High School Geography Project

Gerald Marker, Coordinator of School Social Studies
Indiana University

Judy Miller, Teacher
Spoede Elementary School
St. Louis, Missouri

Sister Mercedes Moore, Teacher
St. Scholastica High School
Chicago, Illinois

Franklin Morley, Curriculum Director
Ladue (St. Louis), Missouri

Irving Morrissett, Executive Director
Social Science Education Consortium
Chairman of the Conference

Harold Negley, President-Elect
Indiana Council for the Social Studies

John Nelson, Chairman
Secondary Education
Purdue University

Roland Payette, Research Associate
Social Science Curriculum Center
University of Illinois

Nona Plessner
Senior Curriculum Coordinator
Educational Services, Incorporated

William Rader, Director
Elementary School Social Studies
Industrial Relations Center
University of Chicago

Joseph Rueff, Coordinator
Economic Education Project
Elkhart (Ind.) School City

Galen Saylor, President
Association for Supervision and Curriculum Development
University of Nebraska

Terry Schurr, Research Associate
Social Science Teaching Institute
Michigan State University

Michael Scriven, Professor
History and Philosophy of Science
Indiana University

Malcolm Searle, Executive Assistant
National Council for the Social Studies

Lawrence Senesh, Professor
Economics Department
Purdue University

Peter R. Senn, Consultant
School of Education
Northwestern University

James Shaver, Professor
College of Education
Utah State University

Irving Sigel, Chairman of Research
Merrill-Palmer Institute of Human Development and Family Life

Margot Silvernman
Assistant Supervisor of Social Studies
Dade County Public Schools
Miami, Florida

Charles Smock, Professor
Psychology Department
Purdue University

Irving Sosensky, Professor
Philosophy Department
Purdue University

Robert Stake, Associate Director
CIRCE
University of Illinois

John Stinespring, Chairman
Social Studies Department
Elkhart (Ind.) High School

W. W. Stevens, Jr.
Visiting Research Associate
Social Science Education Consortium

Stowell Symmes, Staff Associate
Developmental Economic Education Program

Hilda Taba, Professor
School of Education
San Francisco State College

George Vuicich, Assistant Director
High School Geography Project

Robert Winters, Chairman
Social Studies Department
Scottsdale, Arizona

CONTENTS

Page

CHAPTER 1: THE NEW SOCIAL SCIENCE CURRICULA, Irving Morrissett 1

CHAPTER 2: CONCEPTS AND THE STRUCTURE OF KNOWLEDGE, Herbert Feigl. . . 9

CHAPTER 3: ORGANIZING A CURRICULUM AROUND SOCIAL SCIENCE CONCEPTS, Lawrence Senesh 20

CHAPTER 4: ROUND TABLE: CONCEPTS, PROCESSES, AND VALUES. 38

CHAPTER 5: A STRUCTURE OF HISTORY, Edwin Fenton. 51

CHAPTER 6: AN APPROACH TO UNDERSTANDING THE CURRENT STRUCTURE OF GEOGRAPHY, Robert McNee. 59

CHAPTER 7: ROUND TABLE: CONFLICTING CURRICULUM OBJECTIVES, AND TEACHER TRAINING. 65

CHAPTER 8: CONCEPTS, STRUCTURE AND LEARNING, Irving Sigel. 82

CHAPTER 9: ROUND TABLE: THE NEED FOR CRITERIA, RATIONALE AND PERSPECTIVE IN CURRICULUM REFORM. 89

CHAPTER 10: ANTHROPOLOGY IN THE HIGH SCHOOLS: THE REPRESENTATION OF A DISCIPLINE, Robert Hanvey 99

CHAPTER 11: POLITICAL SCIENCE AS A STRUCTURE FOR A SOCIAL SCIENCE CURRICULUM, Nona Plessner and Joseph Featherstone 104

CHAPTER 12: ROUND TABLE: INQUIRY AND EVALUATION 111

CHAPTER 13: VALUES AND THE SOCIAL STUDIES, James Shaver 116

CHAPTER 14: VALUES IN THE CURRICULUM, Michael Scriven 126

CHAPTER 15: ROUND TABLE: VALUES, MORALITY AND RATIONALITY 132

CHAPTER 16: CONCLUDING COMMENTS, Herbert Feigl, Michael Scriven, Lawrence Senesh 147

CHAPTER 1

THE NEW SOCIAL SCIENCE CURRICULA

Irving Morrissett
Purdue University

Concepts

A concept is an abstraction--an idea generalized from particular cases. Abraham Kaplan has described a concept as "a prescription for organizing the materials of experience so as to be able to go about our business. ...What makes a concept significant is that the classification it institutes is one into which things fall, as it were, of themselves. It carves at the joints, Plato said."[1] A useful concept should identify a cluster of properties that usually go together and that have a meaningful relationship to each other. An example of a concept that is not very useful is "epilepsy," a term that groups a number of particular instances that have only the superficial symptom of seizures in common, and that differ in their more significant characteristics. This example suggests that concepts may serve purposes beyond that of mere description. We want a definition that "carves at the joint," for example, so that the dinner host, employing the concept of "thigh" to guide his attack on the roast chicken, will avoid chopping at the midpoint of the femur.

Concepts are commonly used in constructing curricula. When the objectives of a curriculum or a unit are stated, the understanding of certain ideas, or concepts, is usually included. The listing is selective: "key" ideas or concepts are chosen. The objectives may include, for example, an understanding of "measurement," "society," "fairness," "subtraction," or "economic system." Whether the concepts are useful depends on something beyond their customary acceptance and their teachability; it depends on their relationship to a larger body of knowledge.

Concepts are the basis for any scheme of classification. Classification, or taxonomy, is a prominent part of every curriculum, particularly in the early grades. It is important for teachers and children to understand the role that concepts and classification play in learning. "Every taxonomy, Kaplan wrote, "is a provisional and implicit theory."[2]

Structure

Structure is the arrangement and interrelationship of parts within a whole. A structure can refer to the relationship of concepts to each other; for example, the concepts of "money" and "spending" may be related to each other in a structure called "an economic system." Conversely, a concept may itself have a structure. We can think of "an economic system" as a concept, and we can investigate its structure--its parts (including "money" and "spending") and their relationships to each other.

A typical social studies unit has a list of objectives to be achieved, or understandings to be learned. I have frequently applied to these lists what I call "the shuffle test for structure." The test is applied by shuffling the individual items in the list and then making a judgment about whether anything was lost in the process. If there is no noticeable difference in the usefulness of the list after the shuffling, the test indicates that the original list was without structure. Whether a lack of structure in the list of objectives means that there is a corresponding lack of structure in the materials themselves can be debated; it can also be investigated. I suspect that failure to pass the shuffle test frequently indicates that the accompanying curriculum materials contain isolated, unstructured pieces of content.

The ordering of units within a social studies course may also fail to pass the shuffle test, though perhaps less frequently than is the case with the objectives of a unit. If units are ordered chronologically, as in many history courses, the structure will be lost in the shuffle test; but it is an open question whether chronological ordering provides a useful structure. Units may also be ordered according to the spiral theory, which says that children learn best if they start with content closest to themselves and move outward into the wide world. The spiral theory is widely accepted, but largely untested.

What is new in "the new social studies curricula" is increasing emphasis on a new kind of structure that is different from chronology and from the spiral theory. The new structure is the scientific structure of the social science disciplines.

Theory

A theory is a general statement about relationships among facts. The facts that are a part of a theoretical statement are not isolated facts, but idealized facts; they have been organized into concepts. A theory is a structure of concepts; it states a relationship--often a causal relationship--among the concepts.

It was a great insight of Kant that "concept formation and theory formation go hand in hand."[3] Concepts are the building blocks of theories, and therefore good theories depend on good concepts. To pursue the analogy of Plato with which we began, it would be difficult to devise a good theory about the mechanics of how a chicken runs, without the concept of "joint." But the discovery of good concepts is, conversely, dependent on good theories. At the risk of pursuing the poultry analogy too far, we can note that this is the familiar chicken-and-egg problem.

The solution to the dilemma is, of course, a process of successive approximation, in which better theories lead to better concepts and better concepts lead to better theories. An important corollary is that we must be willing to discard old theories for new and old concepts for new.

It is the essence of theory that it organizes and simplifies the profusion of facts in the world. "Nature must be much simpler than she looks to us," said the eminent biologist Albert Szent-Györgyi. "To the degree to which our methods become less clumsy and more adequate, things must become not only clearer, but very much simpler, too. Science tends to generalize, and generalization means simplification."[4] At a low level of generalization, concepts simplify facts; at a high level of generalization, theories simplify facts.

Structure and Theory in the Curriculum

In his much-quoted book, The Process of Education,[5] one of Bruner's two major themes is that elementary and secondary education should make much greater use of the structure of the disciplines. (The other major theme is that we can begin to teach that structure in the very early years.) The principal reason he gives for the increased use of structure is very compelling: it simplifies the process of learning. Simplification is achieved in four ways: structure makes a subject more comprehensible; it facilitates memory of a subject; it contributes to transfer of learning from one subject to another; and it facilitates intuitive thinking.

Bruner scarcely mentions "theory" in The Process of Education, and one can surmise that he had two reasons for this omission. One reason could be that he did not want to frighten the people whom he wants to influence. The other could be that he wanted to emphasize the importance of many generalizations and relationships that belong to the theory family but are not complex enough to be called theories. Clearly he had in mind theories, or parts of theories, or incipient theories. His examples of structure include exercises in constructing units of measurement, in relating the Triangular Trade of the American colonies to the general need of people to trade, and in locating hypothetical cities on an unfamiliar map which shows only physical features.

Joseph Schwab has also stressed the importance of teaching the structure of disciplines. He argues that they should be a part of the curriculum; and, even more significant, that

> they are important to teachers and educators: they must be taken into account as we plan curriculum and prepare our teaching materials; otherwise, our plans are likely to miscarry and our materials, to misteach.[6]

Science can no longer be considered a process of gathering, reporting, and summarizing facts, Schwab says. Progress in science depends on conceptions, on deliberate constructions of the mind. The conceptions tell us what facts to look for; it is impossible to look at everything. They also tell us how to interpret the facts; and the facts, when we try to fit them into our structures, may tell us that we should modify our structures.

Like Bruner, Schwab seems to shy away from "theory." He speaks freely of "principles," "laws," "patterns," "bodies of knowledge," "truth," and "inquiry," but avoids the terms "theory" and "theorizing." Structure, as Schwab defines it, is a part of the process of theorizing; but Schwab is clearly talking about theories and theorizing. His arguments for the use of the structure of disciplines are rich with examples drawn from theory--from biology and modern physics, for example.

Lawrence Senesh has been developing his "organic curriculum" since 1959.[7]

The organic curriculum is a well-articulated structure of concepts and relationships, based primarily on economics but embracing more of the social sciences as the basic idea has grown and been incorporated into curriculum materials. The curriculum is "organic" in two senses. Like a plant, it has a structure that matters; it can pass the "shuffle test." And, like a plant, it grows, beginning in the early years with a structure that contains the most important elements of the subject in simplified form, and growing in depth and complexity through successive grades.

Unlike Bruner and Schwab, Senesh has not been shy about mentioning "theory." The organic curriculum is intended to be a theoretical structure, in tune with up-to-date substantive and methodological findings in the social sciences.

Structure and Theory in the New Social Science Curricula

The major emphasis of the new social science curricula, as of the new curricula in the natural and physical sciences, is on the theory and methods of science--or on the concepts and syntax of the disciplines, as Schwab has put it. This is true of the Anthropology Curriculum Study Project, at the high school level; the elementary anthropology projects at Educational Services Incorporated and the University of Georgia; the "episodes" under development by Sociological Resources for Secondary Schools; the Developmental Economic Education Program of the Joint Council on Economic Education; the Senesh elementary economics program; the San Jose Economics 12 program; the high-school economics program at Ohio State University; the University of Chicago's Elementary School Economics program; the University of Michigan's elementary Social Science Education Program; the eclectic Projects Social Studies at the Universities of Illinois and Minnesota; and others. One could characterize some of these projects as putting more emphasis on teaching theoretical content, others as stressing the methods of investigation--"doing what scientists do."

The situation is somewhat different with the new geography and history projects. These disciplines have never claimed a theoretical body of knowledge in the same sense as those possessed, or being developed by the natural, physical, and social sciences. The High School Geography Project is making use of those limited bodies of theory which it shares with other disciplines--particularly location theory, which it shares with economics, and cultural anthropology. To a greater extent, it is stressing the methods of geographers, particularly methods of observing and classifying natural phenomena, and methods of studying the effects of physical environment on the historical development of man.

The projects which are oriented primarily to history, at Carnegie Tech, Amherst, Northwestern and Educational Services Incorporated, making no claim to a body of theory, have gone all-out on methods of investigation. They are presenting their students with a fascinating array of original documents--diaries, news stories, maps, contemporary accounts, and so on--and challenging them to analyze and interpret them. Both deduction ("Do the documents support the judgments of history?") and induction ("What do you make of the evidence?") are encouraged, with induction a somewhat more popular approach.

Concepts in the Syracuse Project

A very useful contribution to conceptualization of the social sciences for curriculum purposes has been made by the Social Studies Curriculum Center at Syracuse University. Midway in its five-year project, it has recently published a booklet describing thirty-four concepts selected by its project workers and consultants as some of the most significant ideas on which to build elementary and secondary curricula.[8] The list came out of hundreds of pages of background papers and numerous project conferences. One of the concepts, "Conflict--Its Origin, Expression, and Resolution," is elaborated in a 24-page appendix, to show how rich a structure can be built upon one of the concepts.

The Syracuse list is made up of eighteen "Substantive Concepts," including, for example, sovereignty, power, scarcity, habitat, institution and social change; five "Value Concepts," including dignity of man, empathy, loyalty, government by consent, and freedom-and-equality; and eleven "Concepts of Method," including objectivity, interpretation, evaluation and evidence. Most of these concepts cut across two or more of the established social-science disciplines. The list is a challenge to other projects to make available similar work they have done in the course of thinking about curriculum content.

An important purpose of documents such as the Syracuse publication is--like the purpose of this conference--to encourage dialogue early in the process of curriculum development. Let me begin the dialogue by raising a few questions.

First, should "basic ideas or concepts" be identified with "structure"?[9] The book itself has a form of what I would call "structure"--the division of concepts into "substantive," "method" and "value." But it does not discuss the idea of structure. Nor is an effort made to build each group of concepts into a structure (that is, none of the three sections could pass the "shuffle test for structure"); this is a matter that the project will have to deal with when and if it develops an integrated course.

Second, what is the significance of listing "historical method and point of view" and "the geographical approach" as "concepts of method"? I suspect this is evidence that the project made no more progress than have most others in figuring out what is the relationship of geography and history to the (other?) social sciences. One searches the list in vain for a substantive concept to identify with history or geography, as "culture" is related to anthropology, "power" to political science, and "scarcity" to economics. These problems of kinship and paternity, suggested by the Syracuse list, also arise in the following chapters of this report.

Finally, what can be done with the "value concepts"? The book discusses the problem posed by society's conflicting demand that the schools should teach "good citizenship," while avoiding "indoctrination." One can criticize the project for failing to resolve this dilemma with a clear statement of the proper role in the curriculum of its list of values, or of any list of values. But, of course, a clear statement for teaching "good citizenship" (and, therefore, in favor of indoctrinating) or against "indoctrination" (and, therefore, against teaching good citizenship) might bring down even greater criticism.

The intriguing problems of values in the curriculum get much attention in this conference report, but the dialogue with the Syracuse project must be continued elsewhere, since Professor Roy Price, the project director, was prevented by an important prior engagement from attending the conference.

And Then What?

The general agreement on the part of many people in the new curriculum projects to make the social studies more analytical and scientific is the first chapter of what may be a very important book. But it will be a long time before the book is finished and the reviews and sales figures are in.

Many questions will have to be answered before the story is finished. Will there be too much or too little diversity of approaches, in the matters of content versus process, independence versus integration of the disciplines, and the like? Will the available resources for curriculum development be scattered among small and ineffective splinter groups, or dominated by a few monopolistic sources of power? Is there sufficient awareness on the part of the new projects of the desires, needs and limitations of children, teachers and school systems? Assuming that the new projects have worthwhile innovations to offer, how can they help to solve the teacher-training dilemma: that in-service training on a broad front is beyond available resources and institutional possibilities, but that training new teachers to go into an environment that will not support innovations is ineffective? Will parents, school administrators and the public accept important innovations in the social studies--will they allow the scientific method to be applied to morality, religion, national history, sex, economic systems, and the family? Is the general assumption that children can learn more than they are now learning, with the same input of time and effort, a sound assumption? How can we find out whether the new curricula are really better than the old ones?

The story has just begun.

---

[1] Abraham Kaplan, The Conduct of Inquiry; Methodology for Behavioral Science (San Francisco: Chandler Publishing Co., 1964), p. 50. I have relied on Kaplan for a number of ideas in the following discussion of concepts and theory.

[2] Ibid., p. 53.

[3] Ibid., p. 52.

[4] Albert Szent-Györgi, "Teaching and the Expanding Knowledge," Science, 4 December, 1964, p. 1279.

[5] Jerome Bruner, The Process of Education (New York: Vintage Books, 1960).

[6] Joseph Schwab, "The Concept of the Structure of a Discipline," The Educational Record, July, 1962, pp. 197-205.

[7] Lawrence Senesh, "The Organic Curriculum: A New Experiment in Economic Education," The Councillor, March, 1960, pp. 43-56.

[8] Roy A. Price, Gerald R. Smith, and Warren L. Hickman, Major Concepts for the Social Studies (Social Studies Curriculum Center, Syracuse University, 1965).

[9] Ibid., p. 3.

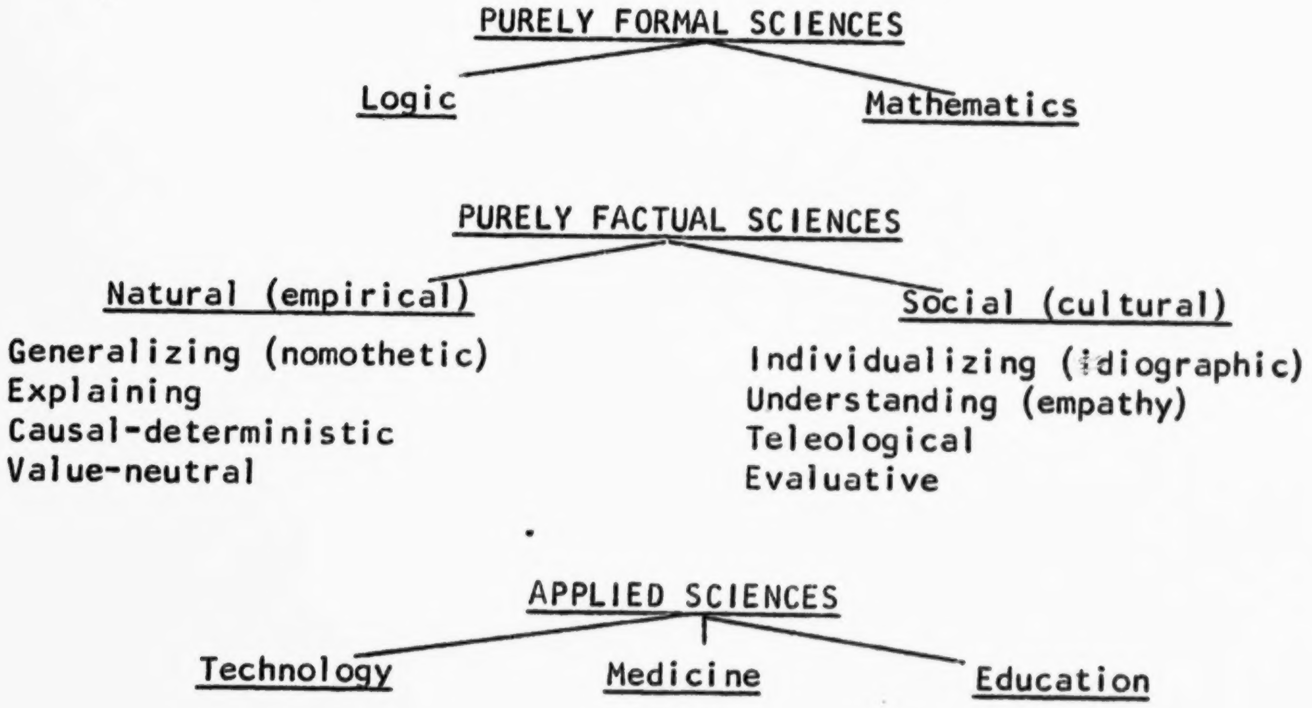
CHAPTER 2

CONCEPTS AND THE STRUCTURE OF KNOWLEDGE

Herbert Feigl
University of Minnesota

We philosophers are specialists in generalities, so I wish to talk about the nature of concepts, indeed. I would like to approach the whole controversy concerning the nature of scientific concepts by way of an introduction that will serve as a framework for my whole discussion. I have written here a number of things that I don't believe.

Figure 1


PURELY FORMAL SCIENCES
Logic
Mathematics
PURELY FACTUAL SCIENCES
Natural (empirical)
Social (cultural)
Generalizing (nomothetic)
Explaining
Causal-deterministic
Value-neutral
Individualizing (idiographic)
Understanding (empathy)
Teleological
Evaluative
APPLIED SCIENCES
Technology
Medicine
Education

In case you have copied this already, I shall explode it all.

I shall speak from the point of view of what I think is a moderate amount of consensus among recent philosophers of science. I will not try to tell you what we are up to, except to say that the major task that we perceive in the philosophy of science today is not so much trail blazing for future scientific discoveries, or formulating new scientific theories, but understanding science. Science is tremendously complex in our age, requiring a special effort merely to learn to understand it. Hence, philosophic clarification and conceptual analysis are of some significance from an educational point of view.

Now before we approach the all-important issue of concepts and of grasping the meaning of concepts, I should like to make a few remarks on the division of the sciences.

The Division of the Sciences

The purely factual sciences, natural and social, provide the basis for applied sciences. The distinctions made between the sciences are logical, not practical nor historical, for there is tremendous interchange between all of these disciplines. It is perfectly clear that mathematics and some of the purely factual disciplines arose out of practical needs--physics, for instance. On the other hand, advances in mathematics, such as the tensor calculus and matrix algebra, were applied in physics, after first being developed by mathematicians. I'm not saying that there is not, from a psychological, practical, and historical point of view, a great deal of interconnection. I think it makes sense, for the sake of clarification, and especially for such clarification as we might need in the educational enterprise, to make the following distinctions.

The truth claims or knowledge claims of the purely formal sciences do not ultimately rest on experience or observation, as do those of the purely factual sciences. Even on that there is some controversy, but I think you can see that, for example, the word "proof" means two entirely different things. When a mathematician talks about "proof" it is a logical derivation of a conclusion or theorem from a given set of premises, postulates, or axioms. If a chemist tells you, "I can prove it to you in the laboratory," the word "proof" obviously means something entirely different. He tells you, "I can show you. You will be able ultimately to check on my hypothesis or my knowledge claim, by observation, experiment, or statistical design." Ultimately, all of these go back to some form of observation.

I will skip the philosophy of logic and mathematics, vital and interesting though it is, and turn to the division of natural and social sciences. Certain German philosophers, late in the last century and early in this century, established a fashion which, to my regret, has also appeared on the American scene.

In this scheme the natural sciences are characterizing by generalizing, the social sciences by individualizing; the natural sciences by explaining, the social sciences by understanding; and so on, as shown in Figure 1. It is these distinctions that I will criticize.

Generalizing versus Individualizing

We are told that the natural sciences are essentially nomothetic, generalizing, seeking formulae, making statements which tell what happens under what circumstances. The social sciences, by contrast, are individualizing. They are referred to as idiographic, a term derived from the Greek word referring to specific facts and specific individuals; for example, the heroes in history. Special descriptions in history, such as that of the art of the Renaissance or the music of the nineteenth century, are also idiographic, because these are concerned with specific periods of time in which certain types of things happened.

Let us take an extreme case to make the distinction clear. Newtonian mechanics and the law of gravity are generalized laws pronounced universally valid, generalized over all of space and time. However, a good scientist realizes that such a generalization can be valid only until further notice, and can be held only tentatively. In any case, this is the type of knowledge claim made. An historical incident such as you find recorded on certain plaques in New England, "George Washington slept here," is not repeatable. It is nothing that you can experiment about. You can be scientific in ascertaining by scrupulous scrutiny whether George Washington actually slept there. Thus, you can use something like the scientific method in ascertaining historical truth. If you contrast theoretical physics with history, in the sense of a narration about individual events and individual persons, the distinction is quite clear.

Psychologists have, for a long time, tried to formulate laws of human behavior or of mental experience. Psychology has been straddling the fence for a long time. There are branches of psychology which are clearly natural-scientific in approach, such as the psychology of perception; the study of the sense organs; psycho-physiology; and neuro-physiology, to the extent that it sheds any light on psychological phenomena. All this has the makings of a natural science. When we come to the psychology of motivation and when we examine the role of behavior and attitudes of individuals in groups, it looks very much like social science; and the Germans call it "Geisteswissenschaft." In English this means literally "spiritual science," but this would be a misleading word. "Cultural science" is a possible substitute.

Now, there's something badly wrong with this distinction. There are natural sciences which are clearly idiographic, and there are social sciences which are nomothetic. The idiographic-nomothetic distinction won't do. Physical geography, in locating mountains and rivers of the continents, is clearly idiographic. We are told Mount Elbert is the highest mountain in Colorado, and it has a certain latitude and longitude. That's clearly idiographic, just as much as "George Washington slept here." The geography of the moon, or we should say the selenography, has been worked out especially by the scientists. Every mountain on the moon has an astronomer's name on it. That's also clearly idiographic. Geology, to the extent that it traces the history of the surface of the earth and the formations of the mountain ranges, is idiographic. Yet, it is a natural science.

On the other hand, the social sciences, including psychology, have had some success in formulating laws that are highly confirmed by the evidence. Social scientists are making serious, and partly successful, efforts to give us general laws; for instance, mathematical formulations in economics about the functional relations of supply and demand, prices, labor force, and so on. Similarly, sociology, learning theory, and theories of motivation in psychology are nomothetic. Skinner's work in the psychology of learning, his schedules of reinforcements, and the regularities that he has formulated are statistical laws about human behavior and animal behavior. In the light of such knowledge he is able to teach pigeons to perform many tasks. You can see that the idiographic-nomothetic distinction between the natural and social sciences does not hold up.

Explaining versus Understanding

We are told that the natural sciences try to explain, whereas the social sciences strive for understanding in the sense of empathy. Empathy means knowing how a fellow human being feels. Empathy is different from sympathy, which implies affinity and approval.

We are told that empathy is a method of arriving at some of the truths in social psychology, in the psychology of motivation, and in history--in understanding, for example, what historical personalities do at a given juncture of events. Important as is the technique of understanding in this sense of empathy, it is not a method of validation, not a method of justification for knowledge claims. Empathy may be an important source of "hunches," which are very useful in arriving at hypotheses; but empathy is not a means of testing hypotheses. Convictions based on empathy can be terribly wrong. Hypotheses must be tested in science, both natural and social, by a common accepted method in which empathy plays no part.

Science by definition, by its very conception, is intersubjective. I use that word in preference to "objective" because of the numerous definitions of the word "objective." There's subjective objectivity and objective subjectivity. "Intersubjective," I think, is fairly clear. The word is built in analogy to the word "international" or "interracial" or "inter-religious." The idea is that science is intersubjective in the sense that anyone equipped with the necessary intelligence and the requisite apparatus must be able to check up on the knowledge claims of others--of the astonomer, the nuclear physicist, the biologist, the social psychologist, etc. No matter how strong your subjective confiction based on empathy, you can be badly wrong. You still may have to correct your ideas in the light of such intersubjective or objective tests as science has at its disposal.

Causal versus Teleological

The concept of scientific explanation has undergone tremendous changes. You may be familiar with that important transformation in the history of scientific thought which changed the whole concept of scientific explanation. In classical antiquity, a true explanation was one that started with premises which are neither in need of proof nor capable of proof. This was the case, for instance, with mathematical axioms. Nowadays we speak preferably of postulates instead of axioms, of assumptions instead of first principles, but these are just verbal changes. The important thing is the change in attitude that came with the Renaissance with people like Galileo and Newton who introduced the idea of empirical verification of premises.

Explanation is in a twofold way always relative. Its premises are relative to empirical evidence, upon which they ultimately stand or fall. They are relative also in the sense that the premises upon which the explanations are based, themselves remain unexplained within the context of that explanation. If we are lucky, we may find an explanation for these on a higher level.

Let us take a simple example from everyday life. On a cold day I rub my hands to get them warmer. The intelligent child might ask, "Why do they get warmer?" Daddy replies, "Friction always produces heat and this is a case of friction. Hence, you hands get warmer." An ordinary Aristotelian syllogism is the method of explanation here. But then a really inquisitive child might ask, "Why does friction produce heat?" Then Daddy is stumped if he hasn't studied physics. If he has studied physics, he can draw upon thermodynamics and say that mechanical energy in the process of friction is transformed into calories of heat. If the child further asks, "Why is it that mechanical energy can be transformed into heat?" there is still another answer to that, namely, the molecular or kinetic theory of heat. These are the levels of scientific explanation, as we can sketch them, in the natural sciences. This is an exciting subject, and it has been the focal point of many discussions.

It is said that the natural sciences use causal analysis in their explanations. The laws we formulate, especially on the lower levels of scientific explanation, are often causal laws in that they state regularities concerning the sequence of events. Friction and heat, lightning and thunder, the deviation of a magnetic needle near an electric current, are all formulated by using the concepts of cause and effect; thus, many concepts of cause and effect are perfectly good in everyday life, even though philosophers of science still have some important unanswered questions about the nature and meaning of causality. We write equations such as the gas law, $PV=RT$, a formula which holds to a certain degree of approximation. The formulation is mathematical, but the content is a formulation of empirical regularities. It tells you that if you increase the pressure on the gas, you may decrease the volume or increase the temperature.

The concepts of cause and effect make good sense in the social sciences. Of course, it is often hard to perform a causal analysis. What caused the First World War is a big and complex question. You can't go into the classroom and begin to lecture that the casues of the First World War were such and such. They are a very complex constellation of circumstances. However, it is not impossible, and responsible books have been written about it.

We are told that in the social sciences causal analysis is replaced by the teleological. We ask for explanations by asking the question, not Why? in the sense of what caused it, but, What for? The accusation of being teleological used to be equated with being unscientific, but this view is changing. Biologists, who repudiate teleology as a philosophy, explain the functioning of the heart and liver partly in terms of the functions they perform in the body. There are many such statements in science which sound teleological. We may not want to call them true explanations, but they may state some necessary conditions, thus helping our understanding of how these things work. An important book, Cybernetics, by Norbert Wiener, which appeared in 1948,[1] has finally made clear that we may speak of teleological mechanisms without contradicting ourselves. We may be dealing with systems in which there are interdependencies and feedback, such as with the thermostat in your house. Wiener created a new discipline called cybernetics, a name based on the Greek word for governor. His work has led to some very exciting developments in biology and in physiology, which give us a causal explanation of a very interesting kind. The French call it circular causality. It accounts for homeostatis phenomena, such as the question of why the blood sugar level remains roughly the same.

Homeostasis has also been used by some psychologists. For example, an Austrian psychologist has said that there is a homeostasis in your personal self-concept. If you are criticized or if someone tries to lower your ego concept, you somehow restore it by rationalization. You react to criticism because you like to keep your self-respect on a certain relatively stable level. There is a certain self-adjustment that takes place even in the scholarly world. If you get a bad review of something you have published, you may say to yourself, "The reviewer is an idiot." You protect your self-concept in this way. That is a bit of homeostasis. We have no idea how this works neuro-physiologically; but, conceivably, even that might be explained ultimately by certain brain mechanisms.

Value-Neutral versus Evaluative

We are told that the natural sciences are value-neutral, but that the social sciences are evaluative. I think that is wrong too.

There is no question that we deal with values in the social sciences. Nothing could be more interesting and more important than the evaluations that individual people and certain groups of people make. But such judgments are not made by social scientists, qua scientists. Evaluation depends ultimately on your own personal commitments and is not derivable from factual statements alone. We study evaluations, but that is different from making evaluations. The psychologist studies motivation, and the anthropologist studies the moral codes and values of the Eskimo. But if the anthropologist says that the Eskimos are wrong because they aren't Christians, that is an evaluation made by the anthropologist as an individual, not as a scientist.

Now, let us turn from the alleged differences between the natural and social sciences and take up another important matter.

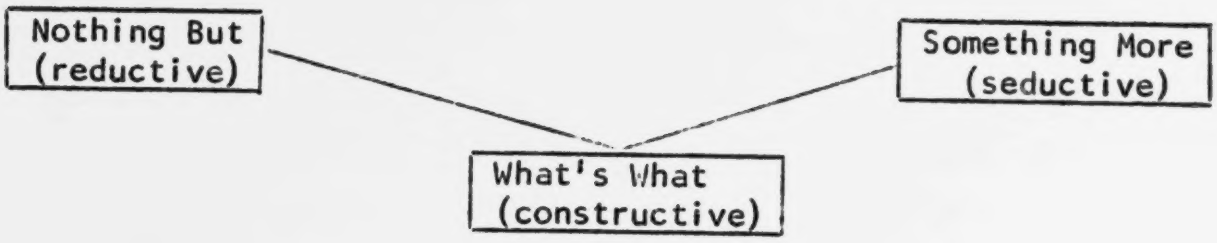
Concepts

There is a classical, fundamental distinction between proper names and concepts. A proper name refers to some particular object. A concept is a generalized notion about objects or ideas. Plato made a metaphysics out of this distinction, declaring that concepts have an existence of their own, in a super-heavenly place far beyond everything that is perceptible. Everything in man's experience is an imperfect copy of these eternal ideas and ideals.

At the other extreme from Plato's idea is the nominalist view, which says that the only really meaningful words are particular words, that is, proper names. This view negates the whole idea of concepts. It will not do, because we know that concepts have a function; they do something useful for our thinking. On the other hand, Plato's metaphysics of ideal concepts with an independent existence in some super-heavenly place is also extreme (although he may have been using poetic license in order to emphasize the contrast between concepts and particular things).

When faced with extreme alternatives of this kind, I often find it useful to use a little dialectic of my own. In the case we are considering, I would call the nominalist view of things a "nothing-but" philosophy; it indulges in the reductive fallacy, failing to see any but the most obvious things. The Platonic view, if taken at face value, illustrates a "something-more" philosophy; it indulges in the seductive fallacy, reaching out for more than is warranted by the facts and the logic of the situation. The synthesis of the two extremes I call the "what's-what's" philosophy; it is constructive, preserving that which is best and most reasonable of the two extreme positions.

Figure 2



This little dialectic is diagrammed in Figure 2. Women's fashions provide another illustration of its use. Bikinis illustrate the "nothing-but" philosophy; Mother Hubbard's the "something-more" view; and decent dress the constructive "what's-what" resolution of the extremes.

In the dispute over concepts, between realistic nominalism and Platonic idealism, my own (constructive) point of view may be summarized as "a concept is what a concept does." Concepts are represented by words and symbols which we use according to certain rules, and we must be careful about understanding and applying these rules. I do not know exactly what word to use to explain the right approach to the use of words and symbols. Operationalism--defining concepts in terms of identifiable and repeatable operations--has been useful, but has led to excesses on the side of the reductive fallacy. Functionalism might be acceptable, if taken to mean a careful statement of the rules according to which we use words and symbols.

A Hierarchy of Concepts

Between the heavenly mysteries of Platonic idealism and the absurdities of nominalism, we can usefully distinguish different levels of generality of the concepts we use. The least general is the descriptive level. Just above the descriptive level, in the hierarchy of generality, are empirical laws, and above these are various levels (as many as three) of theory. These levels can be illustrated by the example given before. The descriptive fact is that I rub my hands, and they get warm. The empirical law is that friction produces heat. Above the empirical law at the first level of theory, there is classical thermodynamics. At the next higher level of theory we have statistical mechanics, or the kinetic theory of heat; and, finally, at the most general theoretical level, quantum mechanics.

As we go up in the hierarchy of theory we encompass more and more facts.

The aim of scientific explanation, the ideal that is guiding us in the search for scientific explanation, is to explain a given set of facts with a minimum of basic concepts and principles. The higher the level of theory, the greater the number of facts that can be explained with a given number of concepts and principles. Newton's laws explain more than Kepler's, and Einstein's more than Newton's.

The social sciences, like the natural sciences, strive to discover high-level theories which will explain many facts with a few simple concepts. An example is the common idea that much of history can be explained by the personalities and abilities of heroes. The Marxian view is almost the opposite; that certain social changes will occur when their time has come, and that people can always be found to fulfill the role of hero. I think the truth lies somewhere in the middle; key individuals occasionally have a remarkable influence on history, but broad social forces are also very important.

In concluding, I am going to apply some of the remarks I made to a question that I know will arise in the course of the conference.

Is History a Science?

What would have happened if I had not had anti-freeze in my radiator when the temperature dropped to 25 below zero? This is a question that can be answered simply and convincingly by an appeal to scientific evidence. What would have happened if Hitler had not been born? This is the same kind of question as the one about my radiator--much more difficult to answer, of course, but not an illegitimate question.

The historian scrutinizes evidence very carefully, reconstructs past events on the basis of currently available evidence, and makes careful inferences. These are scientific endeavors. If, in paleontology, the tracing of the evolution of life on the surface of this planet, is scientific, I do not see why cultural history, the history of art, the history of literature, and the history of music are not also scientific.

Historians are also performing a part of the scientific task when they describe events. Reliable descriptions are important in every science, even though they are, to the philosopher of science, less exciting than theories.

If by science one means the formulation of general, reliable laws, then history has not, so far, been very scientific. However, some historians have attempted to support some generalizations about history. Spengler and Toynbee, for example, have suggested some broad rules about the rise and decline of civilizations. But these attempts are generally precarious, and usually unsuccessful.

One way that I would suggest to improve explanations for historical phenomena would be to use the terms of the various sciences, rather than historical terms. I would look for the roles played in the historical process by economic, sociological, political, and psychological factors. In any case, it is an exceedingly complex problem, but so are many of the problems of the natural sciences, such as in meteorology and astrophysics.

---

[1] Norbert Wiener. Cybernetics; or Control and Communication in the Animal and the Machine (Cambridge: Technology Press, 1948).

CHAPTER 3

ORGANIZING A CURRICULUM AROUND SOCIAL SCIENCE CONCEPTS

Lawrence Senesh
Purdue University

For years professional associations and social science educators have defined and redefined the objectives of social studies education. Volumes have been written about all the behavioral changes, all the skill objectives, and all the changes in attitudes that social studies education is expected to achieve. Many of the statements emphasize that the purpose of social studies education is indoctrination of values. The National Council for Social Studies have emphasized for years in their publications that the ultimate goal of education in the social studies is the development of desirable socio-civic behavior and the dedication of youth to the democratic society. Fundamentally, nobody would object to these goals if the students could achieve this behavior through the rational analysis of society. But in most of the statements I read indoctrination of values is emphasized at the expense of analysis.

The Need for Analytical Thinking

The primary function of the development of analytical thinking is to help our youth understand the structure and the processes of our society. With possession of analytical tools, our youth will be able to understand the dynamic changes of our society and the problems created by science and technology. In the final analysis, the purpose of social science education is the development of the problem-solving ability of our students. By acquiring the analytical tools and the skill to apply the tools to the problems, our youth in their later years will feel that they can participate intelligently in the decisions of a free society. The development of the problem-solving ability of our young people will help them to gain respect for social sciences as an organized body of knowledge and will motivate them to choose social science as a professional career. This emphasis is neglected in the guidance programs in our schools.

The correct use of analytical tools and the discovery of the ideas underlying the social process require a particular mode of analytical thinking. The development of analytical thinking requires a long process of conditioning. I advocate that such conditioning start in grade one of the primary grades.

The present social studies program does not offer the proper intellectual framework to develop the analytical faculties of our youth. Social studies educators who have tried to identify generalizations for the social studies curriculum have suppressed the unique characteristics of the individual social science disciplines and formulated concepts so general that they are without analytical content. Since social scientists have not yet achieved a unified theory of society, economists, sociologists, political scientists, and anthropologists observe society from different points of view, and their findings have to be superimposed on each other before social change can be understood. Since all the social science disciplines are necessary to explain social phenomena, the fundamental ideas of all the disciplines should be introduced in the school curriculum. Why not in grade one?

Grade Placement of the Social Sciences

Some academicians interested in the social science curriculum have raised the question many times whether social science instruction should not begin with geography and history. Professor Scriven wrote an article, "The Structure of The Social Studies,"[1] in which he recommends that social science education start with geography and history in grade one. He justifies beginning with history and geography because the generalizations are less "high-falutin'" and nearer to common sense. He would rather introduce a "low-falutin'" approach in the lower grades, hoping that "high-falutin'" understanding will develop later. If you start with "low-falutin'" curriculum, it seems that it remains "low-falutin'". At least, this has been the history of the social studies curriculum.

Professor Scriven does a disservice to geography and history when he assumes that a geographic or historical phenomenon can be explained meaningfully without the aid of the various social science disciplines. Primary school children study Indians and the colonial period, but since they do not possess the fundamentals of economics, political science, sociology, and anthropology, their learning is trivial. It would make more sense if geography and history were culminating courses in high school. In the intervening years the children could have learned the fundamental ideas of the various social sciences, and these would enrich the geography and history courses.

The Organic Curriculum

A team of social scientists has worked with me during the last two years to outline the fundamental ideas of the various social sciences. This team includes Professor David Easton, Political Science Department, University of Chicago; Professor Robert Perrucci, Sociology Department, Purdue University; Professor Paul Bohannan, Anthropology Department, Northwestern University; Professor Peter Greco, Geography Department, Syracuse University; and myself. These fundamental ideas of the various social sciences represent:

a. A logical system of ideas;
b. The cutting edge of knowledge; and
c. An organization of ideas that can be used at every grade level.

Presenting the structure of knowledge in this way challenges popular curriculum practices based on minimum understandings broken up and parceled for different grade levels.

Our team was guided by the awareness that we are training children for an age which we don't even foresee. We are giving the children knowledge that we want them to use in the 21st century. A hundred years ago the idea that our children are a generation ahead was a platitude. Today it is a drama. It is a drama when we realize that parents cannot understand their children when they come home from modern mathematics or modern science classes. We shall soon get to the stage where parents will not understand their children when they talk about the nature of society.

After we had formulated the fundamental ideas of the social sciences, I visited first grade classes. I wanted to find out how many of these fundamental ideas can be related to the first graders' experiences. I found that the children's experience in social matters is potentially so meaningful that the fundamental structure of knowledge can be related to their experience.

After we found out that the structure of knowledge of an individual discipline can be related to the child's experience, we formulated the next question. If we teach all these fundamental ideas in the first grade, what can we teach in the second grade? In the second grade we teach the same structure of knowledge, only now with increasing depth and complexity. What do we teach in the third grade? We use the same structure of knowledge but with still greater depth and complexity, as the child's experience gains in depth and complexity.

On a scope and sequence chart, all concepts are listed vertically, and all grades are shown horizontally. Since every concept is taught in every grade, the scope and sequence chart should show in the first column, for the first grade, very pale checkmarks. In each grade I would increase the intensity of the checkmarks until the darkest color is used for the twelfth grade, indicating that the same concept has been taught with increasing depth and complexity. The question arises as to how this can be done.

How can you teach political science, sociology, economics and anthropology all in one grade, particularly the first grade? This is a new art, I think, which I call the orchestration of the curriculum. Units have to be constructed in such a way that different units give emphasis to the different areas of the social sciences. In some units the sociologist plays the solo role, while the other social scientists play the accompaniment; then the economist is the soloist, then the anthropologist, and so on.

The first element of my approach, taking the fundamental concepts and teaching them with increasing depth and complexity, I call the organic curriculum. I call it the organic curriculum because these concepts are not presented atomistically between grade one and grade twelve. They are introduced all at once and grow with the child, as he moves from grade to grade. I call the second element the orchestration of the curriculum. The child may not know that the sociologist is talking to him, or the economist, or the political scientist, nevertheless he will be exposed to the social science disciplines in an undiluted form.

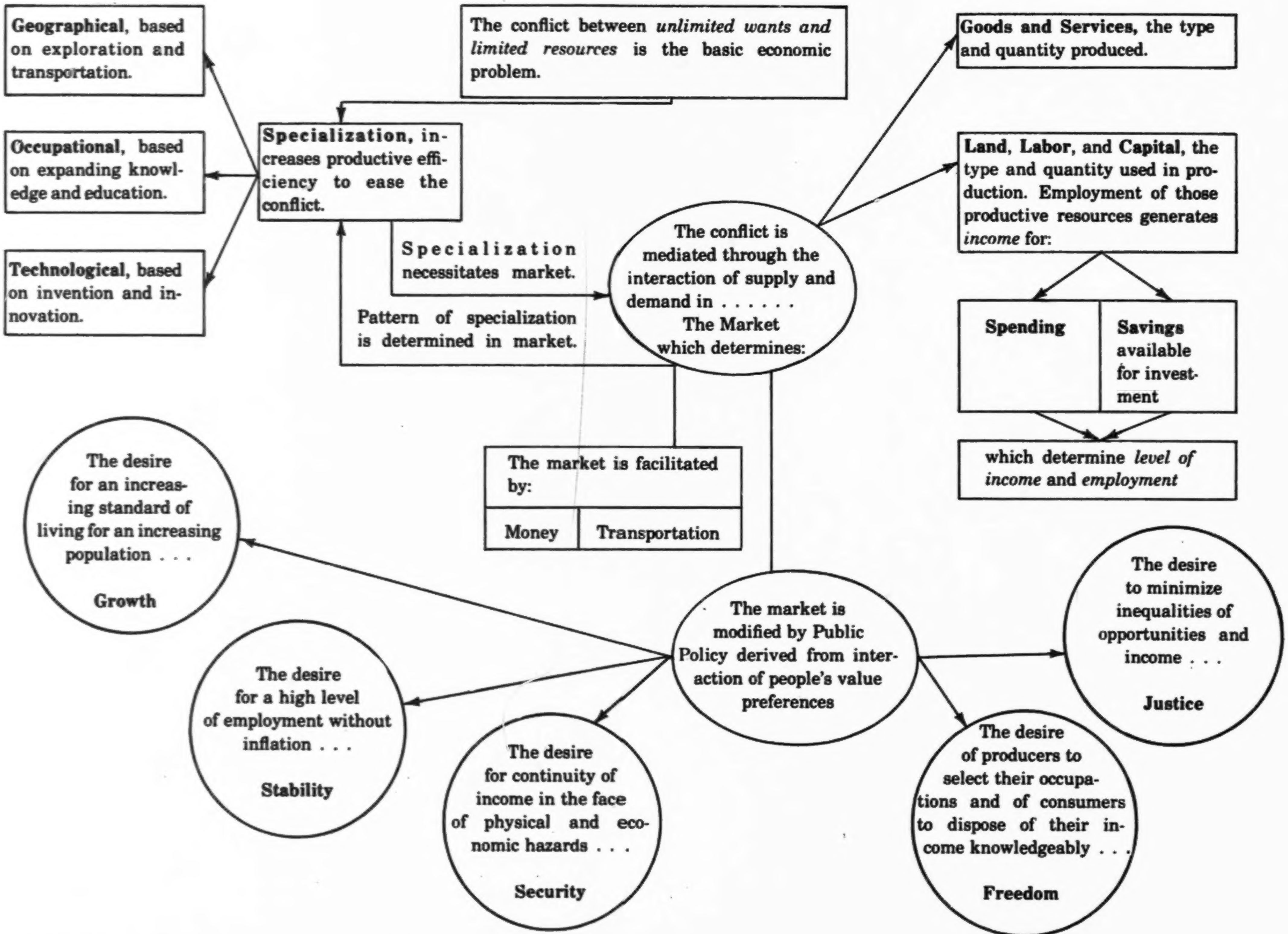
Fundamental Ideas in Economics

The solo role of the economist can be illustrated by the following development of fundamental economic ideas. The same ideas and relationships are shown in chart form in Figure 1.

1. The central idea of economics is the scarcity concept, namely, that every society faces a conflict between unlimited wants and limited resources.
2. Out of the scarcity concept a family of ideas emerge.

Figure 1

FUNDAMENTAL IDEAS OF ECONOMICS


The conflict between *unlimited wants and limited resources* is the basic economic problem.
Specialization, increases productive efficiency to ease the conflict.
Geographical, based on exploration and transportation.
Occupational, based on expanding knowledge and education.
Technological, based on invention and innovation.
Specialization necessitates market.
Pattern of specialization is determined in market.
The conflict is mediated through the interaction of supply and demand in . . . . . . The Market which determines:
Goods and Services, the type and quantity produced.
Land, Labor, and **Capital**, the type and quantity used in production. Employment of those productive resources generates *income* for:
Spending
Savings available for investment
which determine *level of income* and *employment*
The market is facilitated by:
Money
Transportation
The market is modified by Public Policy derived from interaction of people's value preferences
The desire for an increasing standard of living for an increasing population . . .
Growth
The desire for a high level of employment without inflation . . .
Stability
The desire for continuity of income in the face of physical and economic hazards . . .
Security
The desire of producers to select their occupations and of consumers to dispose of their income knowledgeably . . .
Freedom
The desire to minimize inequalities of opportunities and income . . .
Justice

Because of scarcity man has tried to develop methods to produce more in less time, or more with less material and in shorter time. Various types of specialization were discovered in order to overcome the conflict between unlimited wants and limited resources. We specialize geographically, occupationally, and technologically. The third family of ideas grows out of specialization.

3. Because of specialization, we are interdependent; interdependence necessitates a monetary system and a transportation system. The fourth idea emerges from the first, scarcity, and from interdependence.
4. Men had to discover an allocating mechanism and this is the market, where through the interaction of buyers and sellers price changes occur. Prices determine the pattern of production, the method of production, income distribution and the level of spending and saving, which, in turn, decide the level of total economic activity. The fifth family of ideas grows out of the fact that the economic system is a part of political society.
5. The market decision is modified by public policies, carried out by the government, to assure welfare objectives. These welfare objectives are determined in the United States through the political interaction of 200 million people. The political interaction of these 200 million people generates thousands of welfare objectives which I have reduced to five: our attempt to accelerate growth, our attempt to promote stability, our attempt to assure economic security, our attempt to promote economic freedom, and our attempt to promote economic justice.

These are the fundamental ideas of economic knowledge, which we try to incorporate at every grade level, always with the objective in mind that these analytical tools should help the students analyze the cause of a problem, to measure its scope, to develop some solutions, and to measure the dislocations which have been caused by the attempt to solve it. We try to put the problem in a dynamic context and then see what other dislocations are created.

Teaching Applications of Economics

Now, I would like to present a few ideas on how I relate these economic concepts to the child's experience. The first grade child recognizes the scarcity concept because he lives it. He goes to the A. & P. and he recognizes that he cannot have everything which is on the shelves. The "three wish" fairy tales reflect men's yearning to close the gap between unlimited wants and limited resources. Cut-outs from the National Geographic Magazine and other pictorial material can dramatize the different degree to which nations have satisfied their people's wants.

Division of labor can be dramatized with the children by using simple experiments in the classroom. The class may organize two teams. One team executes a production process, such as making gingerbread boys on an assembly line, while the other makes them without using the division of labor. The time keeper decides which of these teams has been able to produce a given amount in less time and with less waste of tools and materials. Children discover division of labor in the home, where each family member does a particular job; in the neighborhood; in the city; in the nation; and in the world. Children discover the division of labor between men and machines. All these kinds of specialization introduce to children the ideas of international trade and mass production. In many classes, the teacher associates the children's discoveries with those of Professor Adam Smith and Mr. Henry Ford. Such identification of the child's experience with the experience of the big society is necessary to the success of this program.

Children's literature is full of delightful stories that can underpin specialization and the resulting interdependence. Through stories and games the children learn that trading would be much more complex if we could not use money as a medium of exchange.

In the second grade, the children can develop models for perfect and imperfect competition, and they can simulate the operation of the market. To dramatize the principle of perfect competition, the children may become wheat farmers one morning. Each child can represent the farmers of the different wheat-growing countries. The teacher can play the role of the broker whose task is to sell the farmers' wheat at the best possible price. At the end of the harvest the farmers report to the broker how much they have produced. The weather was good throughout the world, and since the game limits each country's production to two truckloads, the farmers from Australia, Canada, U.S., U.S.S.R., and Argentina ask the broker to sell their two truckloads at the best possible price. The broker starts an auction among the rest of the class who are the buyers. Their ability to bid has been limited by the toy money the teacher has given them. The bidding starts at a low price and as the buyers bid for the ten truckloads, the price moves up toward an equilibrium price at which all the wheat that has been offered for sale can be sold. The children discover the most important characteristic of perfect competition--the lack of control of the market by producers and consumers. The class may extend to another period when the harvest was twice as good as before. The children will be surprised to learn that the equilibrium price will be so low that the farmers' earnings will be smaller than previously when the farmers brought the smaller quantity to the market. This activity introduces to the children the concept of elasticity of demand without its being identified as such.

To dramatize imperfect competition, some children in the class may play the role of inventors, manufacturers, and owners of grocery stores. The game will help children discover that all these producers in different degrees can control the market. The class discussion can bring out how these different degrees of control affect the producers' power to set prices.

Finally, we get to public policy, where children decide what goods and services will be purchased together. Many goods and services are not purchased by each family but purchased together. The Mayor, the Governor, and the President of the U.S. prepare a long shopping list. After they have presented their long shopping lists, a discussion starts. Some people think the lists are too long and others think they are too short. Finally, they agree upon the proper length of these shopping lists. Then taxes are collected. The people may decide to pay for a part of the list from tax monies, and to pay for the rest by borrowing money. If we don't want to pay taxes, we have to go into debt to buy goods and services together.

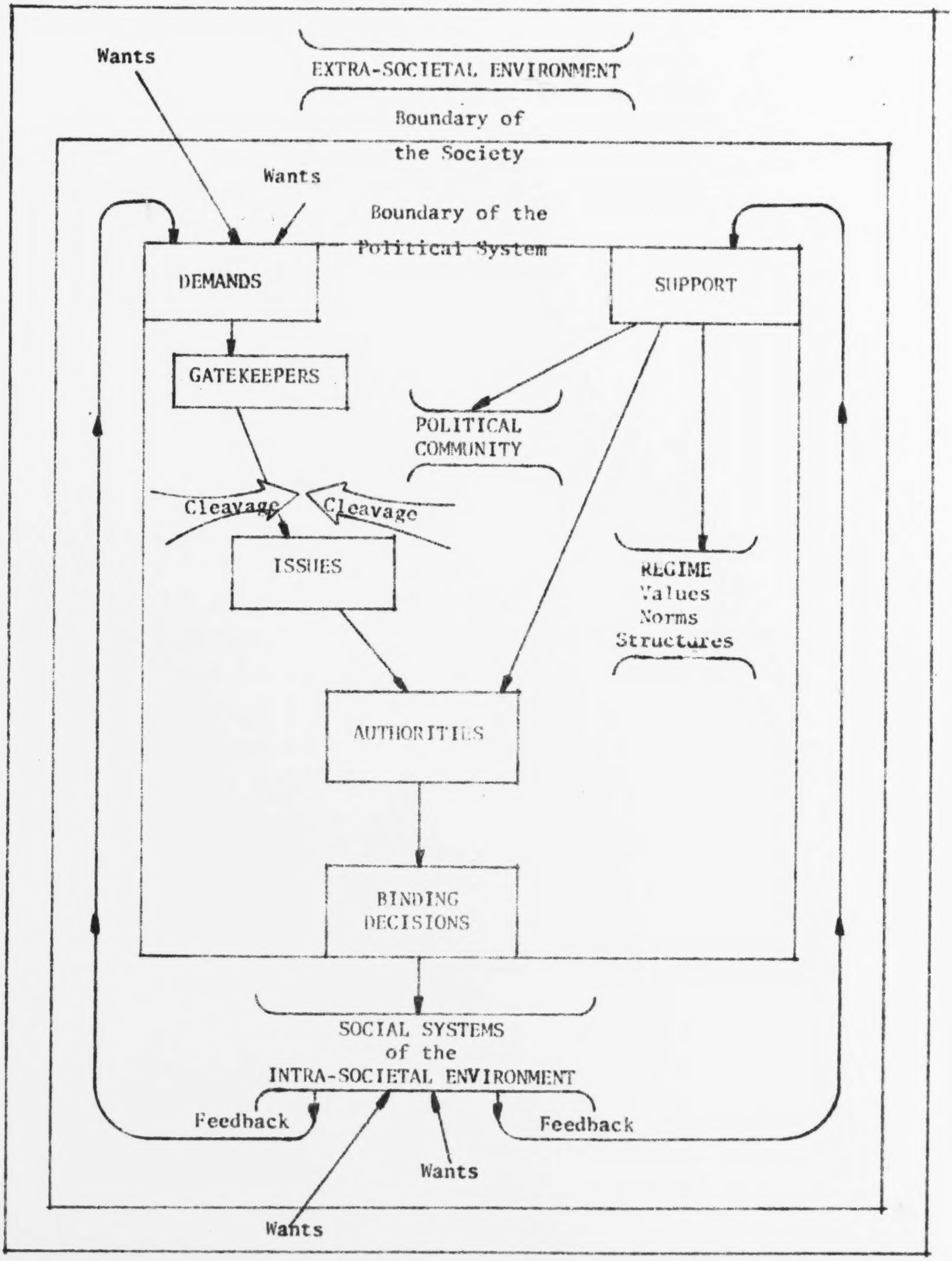
Fundamental Ideas in Political Science

The important idea relationships of political science were defined just as with economics. Figure 2 shows the system analysis of political life which Professor David Easton of the University of Chicago has developed. This chart contains the following ideas:

1. Members of society have many wants which they hope to satisfy.
2. Some of these wants will be satisfied through the economic system, family system, educational system, and religious system. Wants that cannot be satisfied by any of these systems are channeled to the political system.
3. As the people's wants enter the political system for satisfaction, they become demands. These demands are screened.
4. The screening process operates through formal or informal organizations. These organizations act as gate keepers. Some of the demands vanish. Others become issues debated in the political community (a group that shares a common set of political structures and processes).
5. The issues are molded by cleavages in the political community and by the authorities which translate these demands into binding decisions.
6. The binding decisions affect the social systems and the participants in the social systems, generating positive or negative support.
7. The support may be directed toward the political community (a group of people who share a desire to work together as a single unit in the political solution of problems), toward the regime (a political system which incorporates a particular set of values and norms, and a particular structure of authority), and/or toward the authorities (the particular persons who occupy positions of political power within the structure of authority).
8. The binding decisions generate new wants and these wants appear again at the gate of the political systems asking for recognition.
9. The source of the support for the political community, regime, and authorities may originate from the social systems in the form of education, patriotism and other mechanisms.

Figure 2

SYSTEMS ANALYSIS OF POLITICAL LIFE


Wants
EXTRA-SOCIETAL ENVIRONMENT
Boundary of
the Society
Wants
Boundary of the
Political System
DEMANDS
SUPPORT
GATEKEEPERS
POLITICAL
COMMUNITY
Cleavage
Cleavage
ISSUES
REGIME
Values
Norms
Structures
AUTHORITIES
BINDING
DECISIONS
SOCIAL SYSTEMS
of the
INTRA-SOCIETAL ENVIRONMENT
Feedback
Feedback
Wants
Wants

Teaching Applications of Political Science

In the same way that the fundamental ideas of economic knowledge can be related to the child's experiences, we can also relate the fundamental ideas of political science to the school children's experiences on every grade level. The home is a good example of how the innumerable wants of the family are satisfied through the various institutions, and of how many of the wants are exposed to the political scrutiny of the members of the family before they become the rules of the home. The discussion about the various forces which keep the family together has a striking resemblance to the different types of supports which keep the political society together. Looking upon the political system in this way is a fundamental departure from the present civics curriculum where the main emphasis is on description of the legislative, judicial and executive branches of the government.

Fundamental Ideas in Sociology

Professor Robert Perrucci of Purdue University has developed a fundamental structure of sociology which is already in use in experimental classrooms. The core idea is that of values and norms. The system is illustrated in Figure 3.

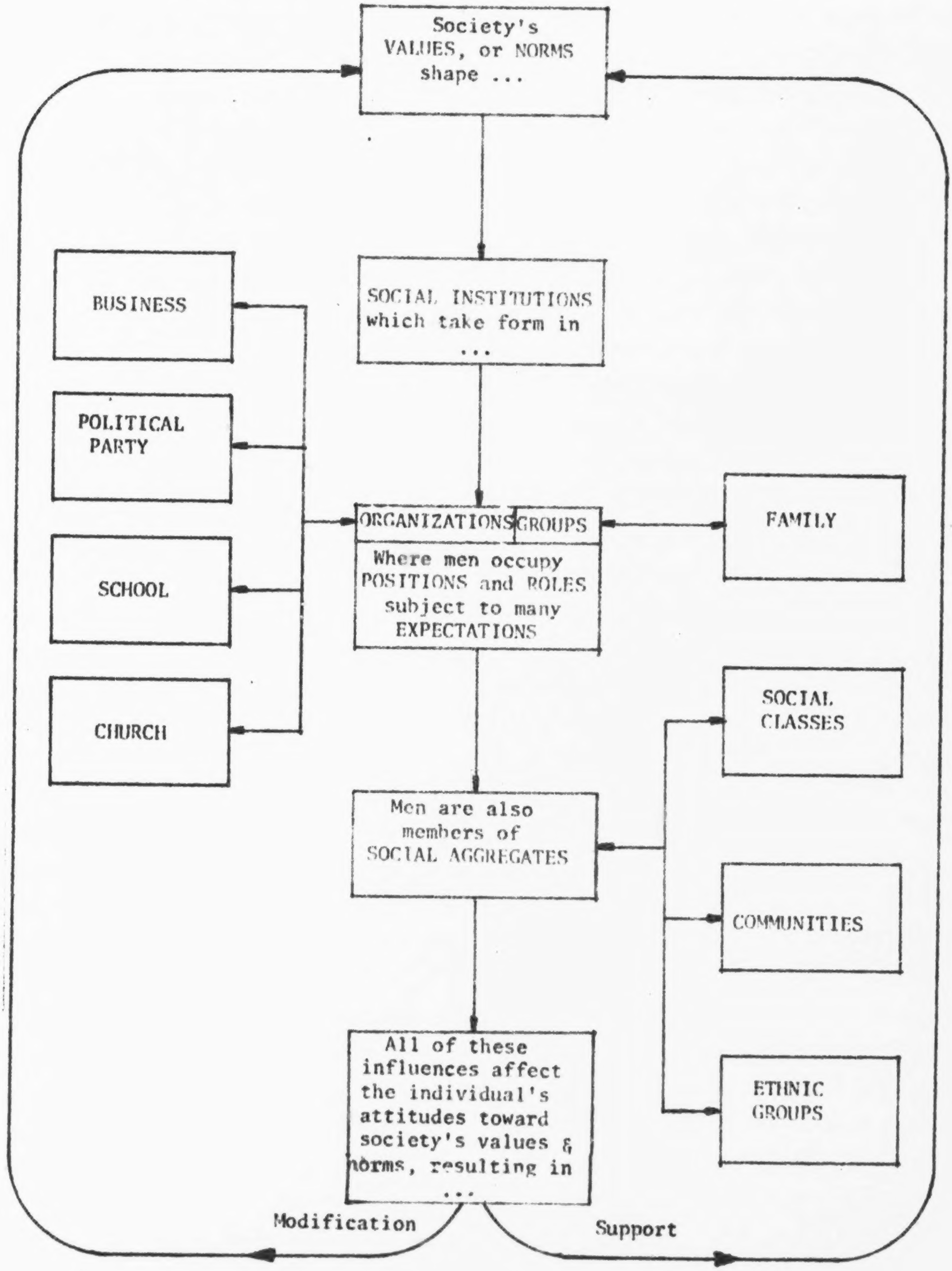
1. Values and norms are the main sources of energy to individuals and society.
2. Societies' values and norms shape social institutions, which are embodied in organizations and groups, where people occupy positions and roles.
3. People's positions and roles affect their attitudes toward society's values and norms, and result either in support of the existing values and norms, or in demands for modification of them, and the circle starts again.

Teaching Applications of Sociology

The conceptualization of sociology enables us to develop units in the primary grades which will make children aware of the importance of predictable behavior among people. Units may show how the ability to predict human behavior creates orderliness in the family, neighborhood, city and the world. The teacher can demonstrate through experiments how unexpected situations have both very funny

Figure 3

FUNDAMENTAL IDEAS OF SOCIOLOGY


Society's VALUES, or NORMS shape ...
SOCIAL INSTITUTIONS which take form in ...
BUSINESS
POLITICAL PARTY
SCHOOL
CHURCH
ORGANIZATIONS
GROUPS
Where men occupy POSITIONS and ROLES subject to many EXPECTATIONS
FAMILY
SOCIAL CLASSES
Men are also members of SOCIAL AGGREGATES
COMMUNITIES
ETHNIC GROUPS
All of these influences affect the individual's attitudes toward society's values & norms, resulting in ...
Modification
Support

and very sad consequences. Children's plays can bring out that the school, business and family could not exist without predictability and order in human behavior.

The many positions men take in society can be observed at home. The children may prepare charts showing the different positions fathers, mothers and children take and the difficulty of fulfilling all the expectations attached to the positions. The children can show that, depending on which positions we think more important or less important, and depending on our ability, we can fulfill some positions better than others. The story of The Ant and The Grasshopper points out effectively the value preferences of the two. The children can also observe and experiment in the classroom how men's positions, due to science and technology, and due to change in ideas, have changed during history.

Laying the foundation of sociological concepts in the primary grades helps children to understand later how interplay between values and institutions brings about social reforms.

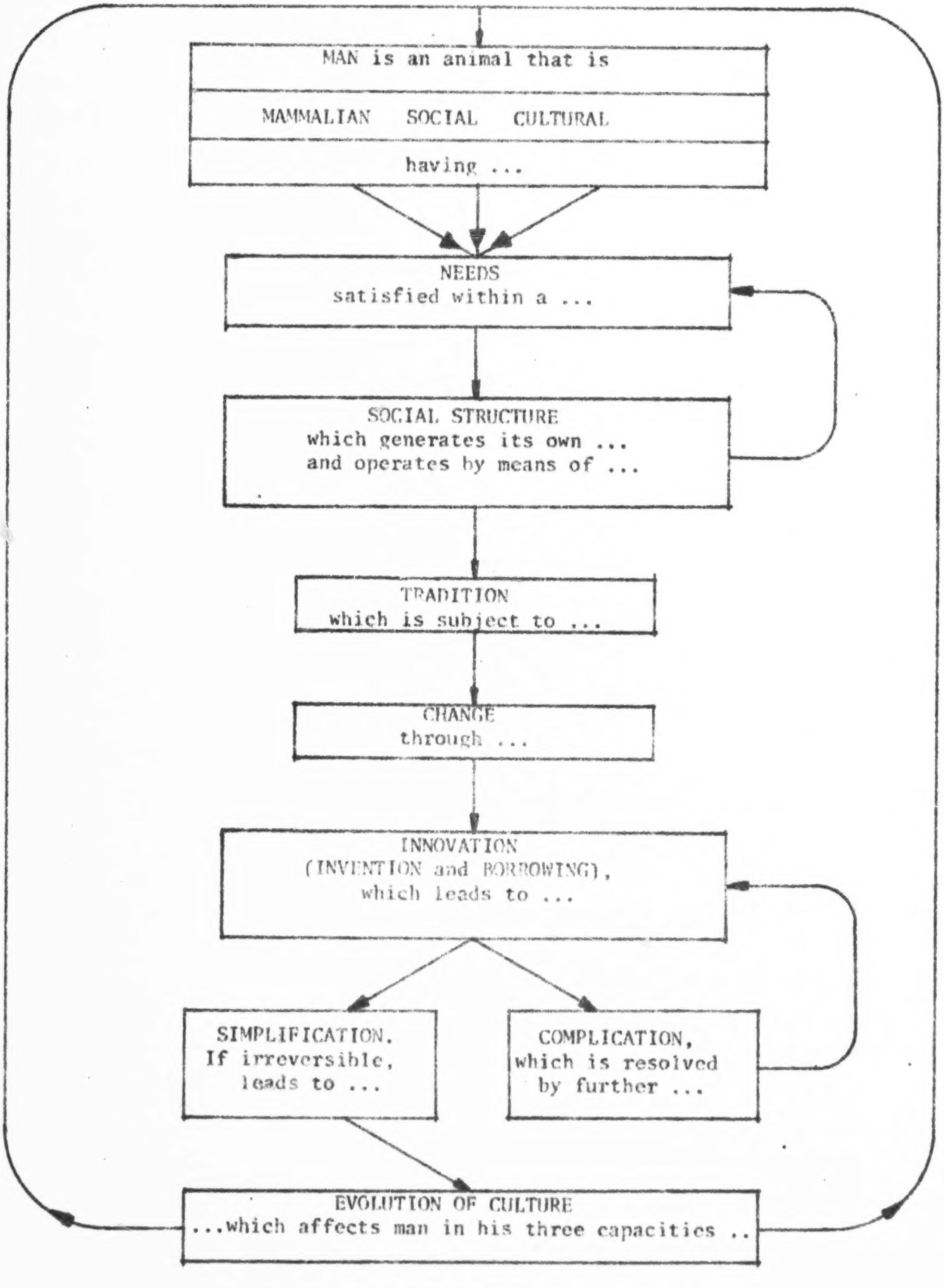
Fundamental Ideas In Anthropology

Fundamental ideas of anthropology have been developed by Professor Paul Bohannan of Northwestern University. Figure 4 shows the following idea relationships.

1. Man may be looked upon as a
   a. Mamalian animal
   b. Social animal
   c. Cultural animal
2. Man, in these three capacities, has needs.
3. Man's needs are satisfied within a social structure.
4. Social structure itself has needs (called "requisites") in order to persist.
5. Needs are satisfied within a particular set of patterned behavior: tradition.
6. All traditions leave some wants unsatisfied.
7. Dissatisfaction leads to changes in traditions.
8. The change takes the form of invention and borrowing: innovation.
9. Innovation leads to complication and simplification.

Figure 4

FUNDAMENTAL IDEAS OF ANTHROPOLOGY


MAN is an animal that is
MAMMALIAN SOCIAL CULTURAL
having ...
NEEDS
satisfied within a ...
SOCIAL STRUCTURE
which generates its own ...
and operates by means of ...
TRADITION
which is subject to ...
CHANGE
through ...
INNOVATION
(INVENTION and BORROWING),
which leads to ...
SIMPLIFICATION.
If irreversible,
leads to ...
COMPLICATION,
which is resolved
by further ...
EVOLUTION OF CULTURE
...which affects man in his three capacities ..

10. Complication leads to social dislocations. Problems caused by dislocations may be resolved through further innovations.
11. If simplification is of such a magnitude that it forms an irreversible base for man's behavior (for example, money and the use of fire), it leads to evolution of culture.
12. The evolution of culture affects man in his three capacities as a mamalian, social and cultural animal.

Teaching Applications of Anthropology

The conceptualization of anthropology in this way will enable the elementary school curriculum builder to develop meaningful units on such conventional subjects as the Eskimos and the American Indians.

A unit on the Eskimos, for example, demonstrates how acceptance of the idea of money changed the life of the Eskimo. The Eskimo in our unit acquired his food, clothing, and part of his shelter from caribou. The scarcity and his nomadic life affected his value system. Then the Eskimo found out that far away there is a trading post where Eskimos can trade silver fox pelts for articles which he had never had before. Our Eskimo family stopped hunting and started to trap silver fox to use as a medium of exchange. The family settled down near the trading post in an Eskimo village. There was less uncertainty here. This story presents to the children evolution in the Eskimo culture. Living together with other Eskimos created new problems. The family's needs changed. Their desire for learning increased. The changes came about because money as a medium of exchange had been accepted by the Eskimo family.

In the higher grades, the conceptualism of anthropology will help the curriculum builders to develop units which will show how the development of underdeveloped areas and the pursuit of nationalism affects people's tribal loyalties and changes their physical, social and cultural needs.

These are the four areas of social science in which we have tried to formulate the fundamental idea relationships. Deliberately, we are leaving the areas of history and geography to the last stages of our inquiry. The reason is that these two areas have a different character from the other social sciences. They have to borrow many of the analytical tools of the other areas of the social sciences to explain a geographic area or the processes of history. Until now history and geography in the elementary and secondary school curriculum have been mostly a narrative of men's actions and a description of their environment. Now, our team of social scientists hope to use their analytical tools to explain cause-effect relationships in man's actions in time and place. Using the analytical tools of social scientists, the children can begin to simulate the historians' and geographers' methods of inquiry.

Fundamental Ideas in Geography

The scope of the geographers' inquiry has been worked out by Professor Peter Greco of Syracuse University. The fundamental ideas in geography are shown in Figure 5, and described below.

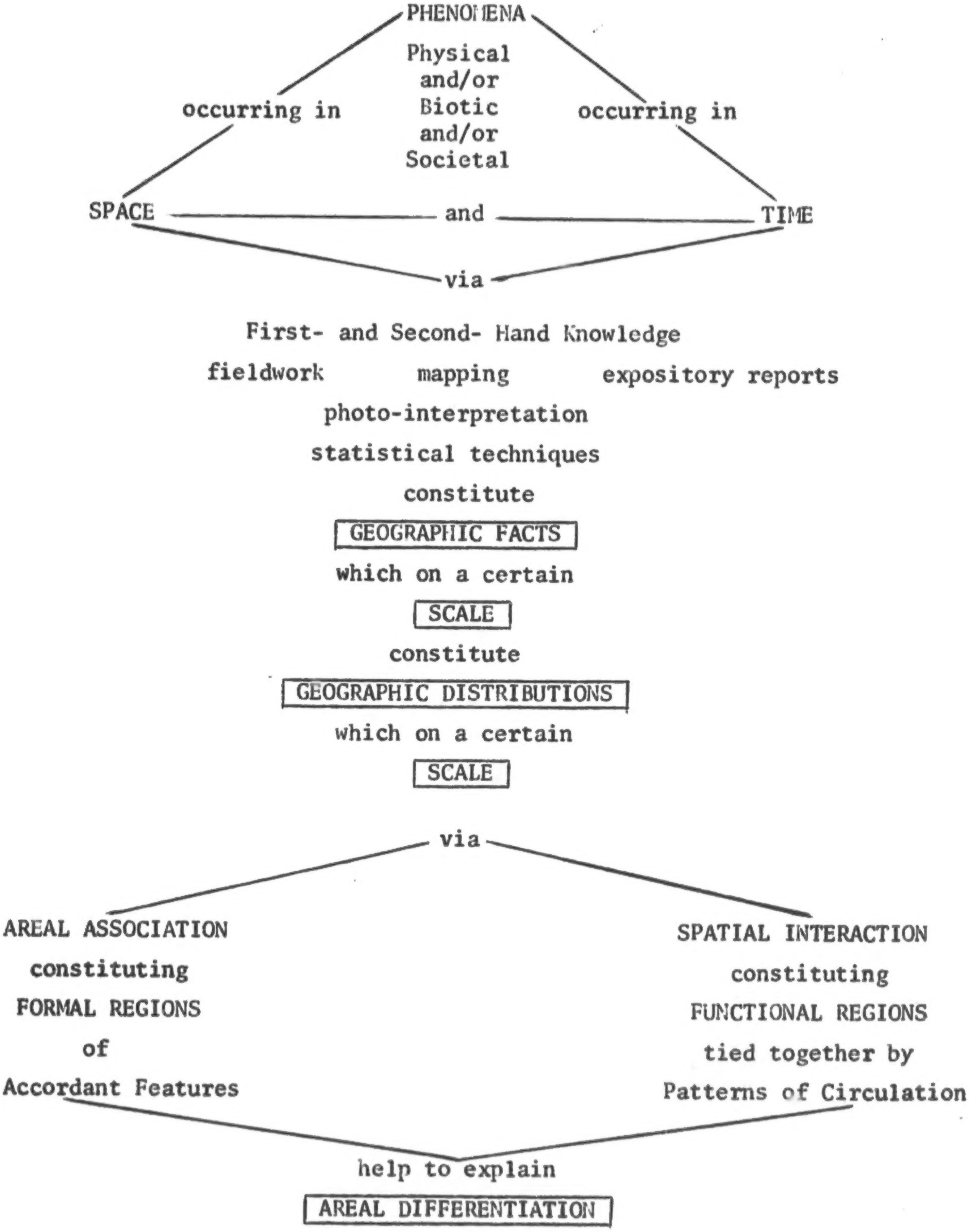
1. Every geographic area is affected by physical, biotic, and societal forces.
2. The impact of these forces on a geographic area creates similarities among areas. These similar areas are called uniform regions. They are static in character.
3. The similarities among different areas have been brought about through different combinations of physical, biotic, and societal forces.
4. An area may be kept together through a pattern of circulation binding the area to a central place. This area is called a nodal region, held together by functional relationships. The nodal region is dynamic in character.
5. Uniform and nodal regions are often related to each other through gravitation to the same central place.

Teaching Applications of Geography

The classroom applications of geography are now in preparation. Activities are being constructed to show the many ways in which the surface of the earth may be divided by geographers, depending upon the objectives of their inquiries. Units are also being constructed to show how the shape and size of the divisions of the earth's surface are influenced not only by natural forces but also by the state of science and technology. Deserts and cold lands, which in the past have been unproductive, may now become productive through scientific progress; for example, irrigation or the discovery of oil can make a desert productive, and

Figure 5

FUNDAMENTAL IDEAS OF GEOGRAPHY


PHENOMENA
Physical
and/or
Biotic
and/or
Societal
occurring in
occurring in
SPACE
and
TIME
via
First- and Second- Hand Knowledge
fieldwork
mapping
expository reports
photo-interpretation
statistical techniques
constitute
GEOGRAPHIC FACTS
which on a certain
SCALE
constitute
GEOGRAPHIC DISTRIBUTIONS
which on a certain
SCALE
via
AREAL ASSOCIATION
constituting
FORMAL REGIONS
of
Accordant Features
SPATIAL INTERACTION
constituting
FUNCTIONAL REGIONS
tied together by
Patterns of Circulation
help to explain
AREAL DIFFERENTIATION

the discovery of minerals in Alaska and the Antarctic can increase the usefulness of those frigid lands.

In defining and studying regions, geographers are concerned with physical, economic, sociological, anthropological, and political facts. The regions defined by physical, economic, sociological and anthropological factors seldom coincide with the boundaries of the political systems that men have set up to solve some of the most important social problems. The resulting dissimilarities between political and non-political regions have been the cause of many problems. For example, if a river basin or an ethnic group is bisected by a political boundary, serious political tensions may result. Such problems may be "solved" by war, by international agreements, or by other social mechanisms. The approach we are taking, as shown by this brief description, provides a partial synthesis of political science, economics, sociology and anthropology with geography.

Conclusion

The development of the organic curriculum and its orchestration is not a crash program. It is a lifetime commitment. It is the job of the academic departments of universities to stimulate more social scientists to pay attention to the problem of structuring the knowledge of their own discipline. Such logical patterns of ideas will serve the social scientist as a map to identify new areas of research, and will serve the curriculum worker as a guide to build a curriculum which can be adjusted to incorporate new ideas as the frontier of knowledge expands.

---

[1] In G. W. Ford and Lawrence Pugno, The Structure of Knowledge and the Curriculum (Chicago: Rand McNally, 1964).

CHAPTER 4

ROUND TABLE: CONCEPTS, PROCESSES AND VALUES

The Obsolescence of Particular Content

Taba: I have a philosophical question about the whole business of identifying concepts. I am trying to relate what Dr. Feigl said earlier to what Professor Senesh has just said. First Dr. Feigl said that all concepts and structures are related to some discipline; in other words, they are constructs. In that sense they are somewhat colored by the prejudices of the particular discipline, or the particular enterprise. Then Dr. Senesh brought up a much more generic question; he said that we are preparing children for a world of the twenty-first century, one that we don't even see yet. This means that economics and everything may be different than they are now. If we visualize society in the twenty-first century, we might be able to visualize one without war, and, as Buckminster Fuller describes it, a society where we can make more and more with less and less. That's his idea of the dynamics of technology. If that is so, what about the concept of scarcity as a central concept of economics? If we take these three things into account, don't we need to question how and what concepts we select and how we use them in this enterprise for which we are preparing, i.e., education?

Senn: One answer or one way to begin it would be to ask: Scarcity for whom? The capital resources required to utilize technology are so expensive that by the twenty-first century, if our present rate of population growth continues, we know that Africa, Asia and South America won't have sufficient capital resources. One way to get at this is to ask, who is going to have scarcity?

Taba: You forget Mr. Fuller's assumption that if we produce more and more with less and less, we may have a society of total affluence.

McNee: Another approach to this is to accept the basic premise of economists that there will always be a scarcity of something. It may not be the things that have been scarce for ten thousand years; something is going to be scarce, though. This affluence produces waste products which must be taken care of. The real scarcity of the twenty-first century may be fresh air, and other things that we have always thought of as free goods. I don't think I would be so quick to write off the idea that there will always be scarcity.

Taba: No, I am not writing it off. I was asking the question: When we formulate concepts, what are all the things we may need to take into account, if we assume that we are preparing children for something that we don't yet have? Is there not a greater dialectic needed than saying in economics that scarcity is central? We need to open up alternatives and this is the essence of my question. Scarcity was just an example.

Senesh: I think I agree with you; I think we should open up a lot of alternative ways for children to look at things. But economists at present would not consider Buckminster Fuller's idea very seriously. It seems to me that we will never resolve scarcity. If we resolve scarcity there wouldn't be economists, since there would be no need for them. As a matter of fact, at that point we wouldn't need an economic system to allocate resources. The allocation problem would cease to exist. When Galbraith talks about the affluent society, he doesn't mean that we have technologically licked the problem of scarcity.[1] He is bemoaning the tremendous affluence in the private area and the complete poverty in the public area. Allocation is a greater problem than the technological solution of scarcity.

Stevens: I may be wrong, but this doesn't get to the question that she's asking. We are not asking specifically about scarcity. We are talking about the selection and formation of particular concepts that we include in the curriculum now, but may not be applicable in twenty-five, thirty, or fifty years.

Senesh: I think that is absolutely right; we must try to prepare for changes that cannot be predicted. Here is a little experience I have had, in handling the subject of cities in the third grade. I have visited the tremendous metropolitan areas of underdeveloped countries where I have seen real metropolitan development. My whole attitude on the theory of urban development has changed considerably since I talked to urban developers in India and in Japan. Now I will incorporate a new idea which is emerging. In this new type of urban theory we are dealing with the relationship of urbanization to industrialization. In the past we have assumed that industrialization is ahead of urbanization, but now a new phenomenon has been created. People are pushed out of the farm and moved to the city as a last resort; they are not pulled into the city. I am now incorporating this new idea into my third grade unit. All I can say is that I agree with Professor Taba. We should try to anticipate the future by taking the cutting edge of knowledge, but I do not think that scarcity was the best example.

Content and Grade Level

Saylor: In your assumptions about teaching these concepts and ideas in the first grade, there is no question but what they can be taught in the first grade, but should they? You did not in any case justify including them in the first grade. Should first grade be devoted to linguistics or to the arts or to music? Perhaps these economics and social science concepts should be delayed until junior high, let us say.

Senesh: All I can say in my defense is that we teach social studies in grade one. I am not asking for a new subject, but to eliminate the Mickey Mouse and put in something good. I am not demanding more time. All I ask for is that the same time should be allocated but with experience underpinned with analysis.

Learning Analytical Processes

Hering: Professor Senesh mentioned that the crucial thing is to develop the analytical process, or respect for problem-solving. If we do this we have solved the problem you present. If new concepts are necessary, the needs will be recognized as they appear. If we have developed analytical faculties, we do, in fact, answer part of our problem.

Shaver: This is very interesting. If you take Schwab's definition of a discipline and are willing to think in terms of substantive and what he calls syntactical or methodological concepts,[2] and look at the current projects in social sciences, you find that most of them concentrate on the substantive content. If you look at the chalk board on anthropology, you see that it is describing what the world is like or what we think it is like. The emphasis is not on the process through which the scientist arrives at the ideas and tests them. The emphasis is not really on the analytic but on the substantive. I think that a philosophical question, or a logical question, is raised about the relationship between statements of objectives and what actually emerges. It almost brings one back to the old period in history when we assumed that children learn how to be as critical as historians by reading histories. I doubt that anyone learns to think like Schlesinger by reading The Age of Roosevelt. There seems to be an assumption that if we teach children the substantive concepts of a discipline they will learn to be analytical, and I would question whether this assumption is valid.

Hering: It depends on how they learn the substantive, though.

Senesh: I would like to react to the question, What is analysis? Figuratively speaking, there is beneath the chart published in my resource unit[3] another that I have not published because I was afraid of frightening the teachers away. In this one I underpin the different significant theories which can explain the market phenomena. When it comes to government, I introduce welfare theory. I incorporate these theories in important model-building exercises in the resource unit. However, these charts are just one dimensional, while underneath these are other layers, in much the same way as Professor Feigl started with different layers. The chart I presented to you may be at the descriptive level, but I have done that only for the purpose of communicating with first grade teachers. When we come to the resource unit, I beg you to notice how deliberately I build on that descriptive chart, underpinning it with some analysis and model-building.

Content and Process

Sigel: I think that the question is different; there are two problems before us. First, how we organize social science knowledge is arbitrary. Let's start with the assumption that we have an amorphous body of information. We are going to organize these pieces of information in ways that are meaningful to us for some reason. Since we have been trained traditionally to think in disciplines, we think in disciplines. We think in economic terms; we think in sociological terms; and so on. The organization of knowledge is important; but equally important is the fact that the method of organization is arbitrary, and therefore that it can change and, conceivably, improve. By improvement, I mean change of a kind that will make it more relevant for solving problems.

Second, if we say that the state of knowledge is tentative, not only in sociology or social science but in all our stated knowledge, then the comment that was made about teaching children the way to approach a problem, as an active process of cognition, is extremely important. What we must do is find out how we attack a problem irrespective of its content. The question is how do we present to the child, facts a, b, c, d, which are contradictory, or which are similar, and how do we teach children how to handle contradictions? How do we help them in the way of coordinating multiple bits of information into some kind of a unit? This is what I think of as process. What we have to do is simultaneously grapple with content and procedure.

We have the same trouble the children have, because we cannot coordinate any better than they can. We were not trained to coordinate subjects. We were trained to take a course in economics 101 and a course in sociology 101. Those professors never talked to each other and we never could talk to each other on that examination that we flunked. So we really have to reorganize our own ideas, and that is the core of our dilemma. Whether we'll resolve it in all of our lifetime is another question. I think we have to face up to what our problem really is. I get impatient with the preoccupation with substance, although I don't deny its value.

Shaver: I would like to expand on Professor Sigel's statement - that it is not only necessary to help children learn how to handle conflicting evidence, but that there are also operational and procedural concepts that you can teach them. If you are teaching something in history you should not take two documents which are internally inconsistent and help them find the internal inconsistencies. If you do this with one or two documents, the next time they may not think to look for internal inconsistency. You first help to develop the concept of internal inconsistency, which the historian then brings to bear on all of his documents when he looks at them. You label the concepts specifically, and teach them, because the evidence is that they aren't going to learn them implicitly. If you can label the operational, procedural, or syntactical concepts and put them along with the substantive, accepted concepts, you have some guarantee that the children may learn them and then be able to apply them later.

Attitudes and Values

Fenton: I would like to expand this analysis one step further by indicating dissatisfaction with concentration on content and analysis without attitudes and values. It seems to me that Professor Senesh _is_ getting at attitudes and values. I wrote down a quotation, "gain respect for analysis." That's an attitude. I am also concerned about the concentration on description, content, and analysis of our society, and our society alone, and its effect on the attitudes and values of children. Aren't they going to look at primitive societies and say there is something wrong with these people, because there is no division of labor and because they don't take some of the obvious insights we have and change their society in a way that will make it work better? Aren't we really being enormously ethnocentric if we concentrate almost exclusively on our own society in the early years, so that we teach the students implicitly that a command society in economics, or a traditional society, is in some way wrong? I think that unless we get our attitudes and values defined behaviorally very early in the game, we may implicitly, if not explicitly, disregard them.

Berlak: I would like to pick up this very same point, dealing with ethical issues. When you say that you are going to teach children to solve problems, we may ask what kind of problems. A certain set of problems that we want to look at are basic ethical issues that confront us in our society. In the basic issues of equality and freedom you may look at syntax in order to deal with ethical conflicts as well as the empirical conflicts. As I look at the curriculum work that concentrates on the social sciences, I not only observe the absence of emphasis on syntax with respect to matters, but also with respect to ethical issues. I think that there is such a thing as well structured ethical discourse which we must think about very carefully. I do not think that you should just get children to reflect and give their opinions, but that you should look for methods of careful analysis of what the ethical issues are. I think that ethical problems are related both to substance and to procedure, or syntax. Ethical dilemmas may not be the sole concern of social science curriculum, but it appears to me that they are important.

Hering: Please forgive a personal example, since I have not been out of the classroom very long. In the context of what has been said here about ethics, and what Dr. Fenton said about ethnocentrism, there are people who state that the primary purpose of social studies is to open closed areas. The question that I would raise is: Why are the areas closed? Ethically, why are they closed? I am reminded of a problem with a slow learner class I once had, which made a comparison of the ethics of the Buddhist precepts and the Hebrew ideas of the Ten Commandments. These children, who were extremely poor readers and had a very difficult time grasping a lot of things, began to see, for example, that the Ten Commandments are expressed in a negative tone. The Buddhist precepts are expressed in a much more positive tone, and they began to question why this was the case. Why was one negative and the other positive? It seemed to me that two things were accomplished. One is that they learned a little bit about the fact that various people meet their needs in different ways. One of the needs that they face is that of behaving in order to get along with each other. More important than that, they learn through this process that you can inquire and discover how man satisfies some needs which aren't necessarily economic, although they could become that. By learning this they have learned process at a very elementary level.

I think it is important to get across the idea that what you learn is not as important as how you learn it. When new things confront you in the future, you've got to know how to go out and learn them yourself. I've seen this happen with extremely weak students and I don't see why we can't begin to orient ourselves more and more toward this.

Symmes: I'm going to assume that we have both behavioral and substantive outcomes. You can't have the analysis in a vacuum. I wonder, Professor Senesh, whether the content of what you teach about the structures of particular disciplines will apply as well to other cultures, which have non-market economic systems. It seems to me that your curriculum is not necessarily culture-bound, that it could be applicable to other cultures.

I am wondering, in terms of learning theory, at what point the child understands this structure of the total system. Does he learn bits and fragments until he reaches a ninth grade or a senior course, when he learns the total structure? Certainly the teacher has to know this. Or, are you assuming that at the first grade level, in each of these areas, the structure of discipline would be taught?

Senesh: Not at all. I am projecting the structure of knowledge upon the mental screen of the teacher. When the child comes and tells his teacher that his father broke his piggy bank and took out his savings because he lost his job, the teacher will be able to analyze the reason his father lost his job. The teacher will recognize what's on the right hand side of my chart as it relates to the total level of income and employment. This is a guide for the teacher. Teacher training is an issue that will come up, I am sure. I assume that in the future the whole concept of introductory courses for future elementary teachers will be changed, so that we do not throw them an 800 page introductory textbook by Samuelson or Bach and assume that elementary school teachers are able to see the fundamental idea relations. I hope that a brand new approach will be taken to the substantive training of elementary school teachers. I intend to write a social science textbook, a real textbook. I have to analyze what that textbook really is. I will ask the question, What holds society together? We mediate and compromise with our bosses. I will explain the allocating and mediating mechanism of the economic system, the political system, the societal system. I hope that the twelfth grade course will be a capstone course. Eleven years of experience will be culminated by formally presenting this conceptualization to them. I would like to defend myself by referring to my chart. The ideas of scarcity, of specialization, of market, of public policy, change in relative size when it comes to a planned economy. The relationship between the private and the public sector changes.

Fenton: I understand your point about analysis and structure, but I am not sure the same approach is sound with respect to values. If students get the notion that the way to organize society is through a market, and get this notion hammered in, year after year, then they might, in the long run, think that other systems are quite wrong in some ways - and that will hinder your efforts at teaching analysis.

Senesh: In fourth grade geography and history and in all the other grades, I open up all types of allocating mechanisms. This is the place where you show how society has organized one area that is entirely different from others. In history, for instance, we look at the American economic and political system, starting with mercantilism and moving to our mixed system. This puts economic systems in a dynamic context that can be read vertically through history as well as horizontally in geography.

I have a good answer to Dr. Fenton's question. In the interaction between government and market, the children discover exactly the opposite of what he holds. They are disappointed in the market economy when they realize that, through public policy, we abridge decisions of the market economy right and left. The children come out with a pragmatic view of the American economic system. They learn that in the market economy there are always at least three-quarters of our 200 million people who don't like its decisions for some reason or another. It may be that they don't like them because they are apostles for general welfare or because they are apostles to maximize their profits. Many businessmen are half socialist: they individualize profits and socialize losses. The market is not a holy institution; we modify it all the time. We have done so throughout American history, beginning with Hamilton.

Summary Comments

Taba: I should like to make several brief remarks. First, I started with two assumptions, and in the first I may have been wrong. I started with the assumption that this meeting and that the activities of the Consortium were for the purpose of re-questioning, re-shaping, and supplementing ideas, not defending positions. Somehow we got into a position of defending something.

The second assumption concerns learning: namely, that children's minds are shaped by the nature of the structure and concepts which they handle. Therefore, the way you put them together and the way you handle them are very important - not just whether they are substantively correct but what the concepts do to the minds of people as they go through the process.

I think this influence of the structure and concepts by which one has been trained is illustrated here in our own discussion. We have been faced with the triple dilemma (Professor Feigl will have to tell us whether there is such a thing, and whether dialectics can be applied to it!) of dealing with substantive content, process and values. We have evaded the issue, even though it has been restated three times, because each of us is in his own cave and can't get out of it. We have dealt with illustrations, but not with the real problem of how these three important things should be related in education.

The future task of a Consortium of this kind is to create the kinds of minds that can break out of whatever the limitations of those caves are. Let me add one more thing, namely, aren't alternatives and openness the most important thing, the chief qualities whatever we deal with substantively? I wish that Dr. Feigl would comment on these matters.

Feigl: I think that Professor Taba has summarized the discussion very well.

I tried to propagate the philosophy of the open mind, of the critical approach, which is a golden mean between the dogmatic, on the something-more side, and extreme skeptics on the other side. Clearly a critical attitude is the sort of thing that is most conducive to fruitful results. The dogmatist, if he ever had his mind open, has swallowed something that he took for the truth and his mind is never open again. The extreme skeptic has his mind open on both ends, as it were, and everything flows through. So, clearly, a golden mean attitude is advisable, in regard to questions of fact or of knowledge as well as of personal evaluation. From my own philosophical point of view, I wish to make a logical distinction between questions of fact and questions of value. Both are of tremendous relevance to all educational problems. We all wish to stay clear of the stigma of indoctrination, both on the side of information and of evaluation. We try to educate our children to keep an open mind. But education must not be so fluid as to be unclear and lacking in substance. What can we do?

In the future, we may not only have vast political and economic changes, in addition to technological ones which are related to them, but also we will begin to tamper with human nature in biological engineering and eugenic planning. Here arise grave, ethical questions, to which no one has a very definite answer, unless he be a dogmatist and tied to a particular system or creed. What will happen in the future when biological and psychological engineering takes place, when, heaven forbid, teaching will become brainwashing? I don't know.

In any case, what the philosopher can contribute is something very modest, namely, to look with an open mind at all these various alternatives and appraise the pros and cons as best as he can from our present framework of values. Here we are not even united because people have different fundamental commitments. I think one task of education is to help us all become clear about the commitments.

I am tremendously impressed with what Professor Senesh has pointed out, particularly because he thinks along the lines, shall we say, of a program of the unity of science. These old scholastic divisions of economics, sociology, anthropology, history and political science are closely interrelated, if you look at mankind in action. They are, at best, helpful divisions of labor, and to create departmental divisions so that people know what department they belong to in the school or in the university. As soon as we can teach the children how these things are interconnected, schematic structures of this sort will be immensely helpful. To diagram political science as a systematic analysis of political life may now be too high a level of aspiration, but this could be enlarged to include the sociological, the psychological, the economic, and so on. The gestalt psychologists have shown that a very effective method of teaching and learning is to map out the territory first and then fill in the details.

I hope I did not misunderstand Professor Senesh. I consider his policy of education a successive, progressive enrichment of content built into experience. This much is psychologically clear. Nevertheless, the teacher should have this conceptual structure before him, and I think it will be very fruitful. Map out the country and then dip down, here and there. Illuminate this with substantive details. This seems to me a good pedagogic policy.

---

[1] John Kenneth Galbraith, The Affluent Society (Boston: Houghton Mifflin, 1958).

[2] The reference is to Joseph J. Schwab. See his "Structure of the Disciplines: Meanings and Significances," and "The Structure of the Natural Sciences," in G. W. Ford and Lawrence Pugno, The Structure of Knowledge and the Curriculum (Chicago, Rand McNally, 1964).

[3] Lawrence Senesh, Our Working World: Neighbors at Work; Resource Unit (Chicago, Science Research Associates, 1964).

CHAPTER 5

A STRUCTURE OF HISTORY

Edwin Fenton
Carnegie Institute of Technology

The title of my talk, "A Structure of History," is phrased to take account of the wide diversity of opinion which exists on the subject. One can hardly speak of the structure of history; indeed, many historians deny that their discipline has a structure. They point to the unique quality of each historical event and decry attempts to construct theories, develop models, or even make high-level generalizations. Even those historians who believe that history has a structure will quarrel about its nature. Some of the discussion stems from disagreement about what history is. This issue--the definition of history--provides a good starting place for our discussion.

Definition of History

I have accepted the definition given by R. G. Collingwood in The Idea of History.[1] Many other historians support Collingwood's position. He makes four points:

1. "History is a kind of research or inquiry." It consists of a form of thought organized around asking, and trying to answer, questions. The questions concern something the investigator does not know for certain--the cause of a war may serve as an example--and the answers must be discovered. Any article in the American Historical Review supports implicitly this definition of history.
2. The object of history as a discipline is to find out about the actions of people who have lived in the past. The teacher may use history for additional objectives--for example, to shape the attitudes of his students--but the professional historian writing a monograph or a journal article usually stresses scholarly investigation about the past as his sole objective.
3. The historian proceeds by interpreting evidence. Evidence consists of any remains from the past--documents, buildings, paintings, recordings and so forth. The historian reads and looks and listens,

noting the evidence that strikes him as germane to his inquiry and ordering it according to established rules. These two activities--noting what seems germane and ordering evidence in an argument--contain the key to the utility of structure in the historical discipline.

4. Finally, history is useful to study because it can encourage reflective thinking leading to human self-knowledge. A man should know himself. He should know what distinguishes himself from other men and he should know the nature of man as a species. A clue to what man is and to what each individual can become lies in what man has done. Hence history is a worthy study.

Notice that Collingwood rejects by omission some dictionary definitions of history which treat history as all the things which have happened in the past or as a record of past events. We know only a tiny fraction, some small proportion of one percent, of the historical events which have transpired. Moreover, no one scholar in a lifetime of effort could investigate all the extant data about even one major historical development like the American Revolution. He could only select data to note down from the sources he was able to consult. He cannot have an impartial record; he can only produce an interpretation determined by the criteria he established for the selection of evidence from his sources and by the rules he used to draw conclusions from this evidence. History is a kind of inquiry. A student who learns facts and generalizations about the past without becoming involved in the process of inquiry--and most students in American schools do exactly this--does not study history.

The Idea of Structure

Now let me turn to structure. Joseph J. Schwab defines the structure of a discipline in part as "...the body of imposed conceptions which define the investigated subject matter of that discipline and control its inquiries."[2] If we accept Schwab's definition and wish to determine the structure of history, we must identify the imposed conceptions which control historical inquiry. In the past decade, social studies specialists have identified three sets of imposed conceptions: generalizations, basic concepts, and analytical questions. Two of these schemes--generalizations and concepts--I do not find particularly fruitful. The third--analytical questions--lies at the heart of the historian's process of inquiry, where their utility is obvious. Let me discuss these statements in more detail.

A number of workers, the most notable of whom are Paul Hanna and his students, seem to have identified the structure of the social studies, including history, as a list of generalizations: "people migrate when they are hungry" or "division of labor results in increased productivity."[3] Hanna's list contains more than 3,000 generalizations drawn from representative volumes recommended by social scientists. Hanna has arranged these generalizations into nine categories which represent in his scheme the basic activities of mankind and constitute a rudimentary method of inquiry. I find the entire system shallow and of dubious utility. There are too many generalizations to learn--one-and-a-half every school day for twelve years. Moreover, some of the basic activities aren't basic. But the scheme's principle fault lies in its conception of the social sciences: they become primarily a body of known generalizations rather than a process of inquiry. They consist primarily of things to learn rather than ways of learning. Yet lists of generalizations are one legitimate way to think about structure because they do define the investigated subject matter and they do control its inquiries. They just don't do either task very well.

Lists of basic concepts--the concept of power or the concept of culture will serve as examples--are more useful than generalizations, but they still leave something to be desired. They have two major advantages. In the first place, scholars who have been identifying concepts choose a limited number--say thirty-five--which a student might conceivably master in the twelve years of study. Secondly, some of the lists, such as the one from Syracuse, contain concepts having to do with the process of inquiry. Moreover, a list of concepts chosen to include the major analytical categories from the social sciences implies an analytical scheme which can control inquiry. "If you want to know about the past," they say, "investigate culture, power, the allocation of resources, areal association and so forth." Such a scheme guides the search for data. It helps to raise questions. It tells historians what to take notes about. It also provides an organizational scheme suggesting ways to present evidence.

But most historians are not comfortable with concepts. Despite the publication of Edward N. Saveth's American History and the Social Sciences,[4] an analysis of the uses of social science concepts in the interpretation of history, most historians still do not think naturally in terms of a conceptual apparatus. Lists of concepts evidently have not proved to be maximally useful to historians or they would be acknowledged more fully in the literature. Like generalizations, concepts make up a structure of history. Like generalizations, they are not the most useful structure.

Analytical Questions - The Heart of History

Historians control their inquiry primarily through the use of analytical questions: "Was there an event-making individual on the scene?" Notice that I did not say a list of questions. Each historian has his own list which has grown out of his life experience. The differences in lists help to account for different interpretations of the same events by two men conducting parallel investigations. Differentiated application of the rules of evidence account for the remainder of the differences.

Each historian approaches an investigation with questions to put to his data. His questions may have been derived from a variety of sources. An abstract social science model, such as supply and demand analysis, may have taught him to ask about the influence of a change in tastes on the demand for Ford automobiles during the 1920's when General Motors--unlike Ford--abandoned basic black. He may have learned from a course in sociology or political science to ask whether or not Joe McCarthy had ignored the folkways of the Senate, a proud and ancient club. Knowing that a large number of leaders of the assemblies during the early years of the French Revolution were petty bureaucrats may have prompted him to ask if leaders in the Russian Revolution were recruited from similar groups. An argument with a rebellious son at the dinner table may have caused him to reflect about child rearing patterns in other societies and hence to ask some new questions of Franklin's Autobiography. Analytical questions come from everywhere, not just from lists of concepts.

The analytical questions which a historian asks exert substantial control over his inquiry. Marx asked questions about class difference which guided his pen as he took notes in the British Museum. Analytical questions do guide the search for data. They tell historians what notes to take. They help to provide an organizational scheme for the presentation of evidence. They even determine the subjects of books and articles, each of which starts with a question growing out of a scholar's frame of reference. They are a legitimate way to think of structure as Schwab defines the term. They are the heart of the process of inquiry. They are essential to the study of history as Collingwood uses the word.

Implications for Social Studies

What does this definition of structure imply for the selection of content in social studies? It does not imply that our sole objective should be inquiry or that we should concentrate our attention exclusively on the process by which students can be taught to ask analytical questions and to develop questions of their own. Many curriculum projects have taken the question of objectives too lightly. We must begin to think more seriously about the different audiences in our schools--low IQ, disadvantaged, potential dropouts vs high IQ, highly motivated, college-bound students--and the objectives most appropriate for each group.

But given different audiences with which to deal; given three clusters of objectives (namely, attitudes and values, skill in the use of a mode of inquiry, and knowledge of content); and given the known relationship between objectives, teaching strategies, materials, and patterns of deployment: what does structure, viewed as analytical questions, imply for the problem of scope and sequence? Let me suggest four implications.

First, since many analytical questions useful in historical investigation come from social science disciplines, the social sciences should be taught early in the school sequence. If this conclusion is sound, the attempt to develop social science courses as senior electives may be misguided. So may the attempts to save a chronological approach to the fifth and eighth grade history courses. Why teach history at all in the grades? Why not wait until children can handle chronology better and until they have learned analytical constructs?

Second, historians must try to develop minimal lists of useful analytical questions. Those lists should be drawn from the work of other social scientists. I could easily turn many of Hanna's generalizations or Price's concepts into Fenton's questions. Carl Gustavson has taken a crack at a list in his chapter on causation in A Preface To History.[5] A methods book which I have written also contains some key writings on this subject.[6]

As we develop these lists, we ought to organize them in such a way that students will recognize immediately their source in social science concepts. We might begin by asking "What analytical questions are most germane to the analysis of a concept like culture?" A historian who uses these questions may be examining the culture of France during the reign of Louis XIV. Analysis of a culture demands a whole set of questions. Other clusters of questions can easily be developed.

Third, we must experiment with the types of materials and teaching strategies which will best help students: (a) to learn some analytical questions; (b) to learn them, perhaps simultaneously, in the process of inquiry; and (c) to learn to generate analytical questions of their own. The Social Studies Curriculum Development Center at Carnegie Tech has been experimenting along these lines for almost three years. We have some crude notions of what ought to be done based on our own evaluations. Several other groups and a number of individual scholars are also working at the problem. It is not easy primarily because so many variables are involved at once--audience, objectives, teaching strategies, materials, previous courses in the sequence. Three of our conclusions may prove interesting to you.

A comparative method seems to work well. In the two one-semester ninth grade courses, for example, we compare the political and economic systems of a traditional society, the United States and the Soviet Union. We build the same sets of analytical questions into our study of all three societies. This device obviously facilitates comparison because it requires students to seek data about the same issues. It also gives them an opportunity to use the analytical tools learned in their examination of a primitive culture for the analysis of two complex cultures. The questions they have learned are immediately useful. They are tried out in a different context. Our students remember them and are able to use them in a history course during the sophomore year. Repeated practice seems to help, hardly a startling conclusion.

A variety of types of materials can be used to generate questions. We have used anthropologists' case studies, diaries, letters, articles from periodicals and many other types of data. In each instance we write an introduction and study questions which lead students to generalize and to become self-conscious about the process of inquiry. We find all of these materials far more useful for our purposes than traditional text accounts which give away all the answers, often to all the wrong questions.

Finally, we have employed a wide range of teaching strategies to get at the use of analytical questions. In some cases, we have given students questions to learn and then invited them to apply the questions to data. Here we operated near the expository end of the continuum. On the other hand, we have sometimes given students raw data and challenged them to develop analytical constructs which the data suggest. They end a discovery exercise of this sort with knowledge of the data as well as knowledge of questions and of the process of inquiry. Many strategies dotting the continuum between these extremes are also useful.

In closing, let me suggest a fourth implication of structure viewed as analytical questions. We need new evaluating instruments. Our Center has heard about or developed two. The first consists of taped classroom sessions of experimental and control groups taught for a few days by a guest teacher who tries to get at the attack strategy of students. Do they use analytical questions or don't they? How do they handle the process of inquiry? Having classes taped enables a number of listeners to analyze the responses and to form judgments.

Our other proposed evaluating device consists of paper-and-pencil tests which will present students with data and ask them to pose questions to it. What questions will they ask--ones they have learned or ones they generate spontaneously? Will the questions be germane to issues that historians see implicit in the data, or will they be fired shotgun fashion in the hopes of hitting something? Can students ask clusters of questions getting at different aspects of the same issue? Only when we have defined our objectives behaviorally and developed instruments to measure their attainment can we hope to learn whether analytical questions are the most useful notion of the structure of history.

---

[1] R. G. Collingwood, The Idea of History (Oxford University Press, 1946).

[2] Joseph J. Schwab, "The Concept of the Structure of a Discipline," The Educational Record, July, 1962, 197-205.

[3] For a summary of this scheme, see Paul R. Hanna and John R. Lee, "Generalizations from the Social Sciences," in John U. Michaelis, ed., Social

Studies in Elementary Schools (Washington, National Committee for the Social Studies, 1962), 62-89.

[4] Edward N. Saveth, American History and the Social Sciences (Free Press, 1964).

[5] Carl Gustavson, A Preface to History (McGraw-Hill, 1955), 55-64.

[6] Edwin Fenton, Teaching The New Social Studies in Secondary Schools: An Inductive Approach (Holt, Rinehart and Winston, 1966).

CHAPTER 6

AN APPROACH TO UNDERSTANDING THE CURRENT STRUCTURE OF GEOGRAPHY

Robert McNee
University of Cincinnati

The Geographer's Way - A Definition

My first assumption is that the principal objective of a geography course should be to communicate "the geographer's way." In short, I am a Brunerite. Saying this does not really help very much, because you then have to decide how to define what the geographer's way is.

I define geography as what geographers share--not what geographers do, but what they share. Despite individual differences, there are a number of things that they share, which can be called the geographer's subculture. With apologies to the anthropologists, I will call this subculture a tribe. Like a tribe, this profession has its rites of initiation, its heroes, its tradition, its sacred books, its common technology and language, and its division of labor.

What is the first thing that one should look for in the mores or behavior of this tribe? I think it is the key questions that geographers have been concerned with for many years. One of the reasons for stress on key questions is my assumption that one of the chief things that gets professional geographers into geography, or professionals into any discipline, is their concern with getting answers to interesting questions. It is the research problems posed by geographers that give to geography its direction and thrust.

Geographers, wishing to give the appearance of a coherent and united group to outsiders, commonly define their subject in ways that are very inclusive and inoffensive. The result is broad, static and uninteresting definitions, which obscure both the diversity among geographers and the fact the major interests of geographers change from time to time. Occasionally, however, some intrepid souls venture to pinpoint the current foci of research interests, which reveal the current trends in geographers' thinking. I am going to discuss two such recent efforts.

Five Major Research Traditions in Geography

Professor William Pattison, the first director of the High School Geography Project, drawing upon his experience in the project and with many geographers, described four major research traditions in geography. The National Research Council, in a 1965 book titled The Science of Geography,[1] also addressed itself to the problem of identifying the key questions that geographers have been trying to answer. They, too, came out with a list of four major areas of inquiry, three of which were similar to Pattison's, and one quite different.

The important conclusions to be drawn from these two efforts are that the discipline of geography is quite pluralistic, and that it encompasses a cluster of research questions. I have combined the results of the two studies, giving a list of five research areas or traditions that will form the basis for the analysis of content and trends in geography that I shall discuss here.

1. Physical geography, or earth science; the arrangement and functioning of things on the surface of the earth.
2. Cultural, or ecological, geography; the relationship between man and his environment.
3. Regional geography, or area studies; what a given place is like as a totality.
4. Spatial geography, or location theory; the geometry of the earth's surface; why things are arranged as they are and why there are differences in densities, dispersions, and patterns.
5. Political geography; how the political system impresses itself on the landscape.

Recent Directions in Research

All five research traditions have existed from the time geography was first studied in Ancient Greece. However, progress in each tradition has been uneven. At the turn of the century, physical geography attracted the most attention. Somewhat later, the question of man in relation to his environment preoccupied most geographers. In the 1930's and early 1940's, regional geography received the most attention. In the last ten or fifteen years, geometric or spatial geography has attracted the largest number of productive and articulate research workers. Political geography has been recognized as a significant research question by most 20th Century geographers, but has been actively developed by only a few research workers. Perhaps political geography will hold the spotlight in the 1970's.

Parenthetically, the diversity of research interests raises a major problem in translating the geographer's way into a course. If we say that we want to reduce the lag between the actual research frontier and what goes on in the classroom, how do we decide which among these research questions shall be emphasized? If we are talking about the way of the past, the tradition of geography, then perhaps all five research traditions should receive emphasis in proportion to the research time each has received in the past century. If we say that we want to teach the way of the present, then a course should emphasize the research questions receiving the most emphasis at the present, hoping to bring students as close as possible to the research frontiers of today. However, since each of these traditions has persisted for so many years, each must ask important questions and should not be slighted. This is a problem and I do not know the answer.

Unifying Elements

I have defined geography as what geographers share. Let me turn now to what geographers share in each of the various traditions, to that which unites the geographical sciences. Why has geography held together in a single discipline? Why have geographers continued to read the same journals, attend the same conventions, and so forth? Part of the answer is found in the fact that individual geographers have often worked on different research questions at various times in their careers. Another unifying bond is common research technology and method. Geographers using similar research tools can understand each other even if the research questions probed differ as much as those of physical geography and political geography. Common understanding of maps as research tools, and of modern areal statistical methods, tend to unify them.

Another unifier among geographers is their commonly held set of values. I think that most American geographers would agree that we share at least three key values. One of these shared values is the humanistic or esthetic appeal of maps. A second value that geographers share is the virtue of direct observation, which they usually label as field work. A third value shared by geographers is a yearning for that which is comprehensive, that which can be seen as a totality.

The yearning for totality is the reason geographers have tended to push the area study approach; it is an important value that they are trying to get across. The ultimate geographic problem is to understand the entire globe as one single interacting system. Of all geographic values, this is the one that is clung to most tenaciously by geographers. The globe is ours and no one is going to take it away from us.

Geography is further unified by its system of communication, which includes both visual and verbal symbols. Maps are a major means of communication, as are diagrams and mathematics. However, the major geographic communicative device is language, including geographic jargon. It is because geographers share many concepts that they are able to communicate, even though they may be working on differing research traditions. Four of the most important concepts are:

1. Scale, and shifts in scale.
2. Areal association.
3. Spatial interaction.
4. Regions and regionalizing.

These major concepts hold together the whole system of geographic thinking; they span the five research traditions, and provide an important key to the "geographer's way."

From Geography Theories to Geography Curriculum

The objective of a geography course should be to communicate the geographer's way, of which I have identified two major elements. One element is made up of the five great research traditions, which give direction and thrust to the work. The other is the group of forces which unify the separate research interests into a single discipline: a common technology, a common value system, a common conceptual system, and a system of communication.

How does one translate the geographer's way into the concrete reality of a course? Reflecting the current emphasis on teaching concepts and structures rather than collected facts, "The Settlement Theme Course Outline" for the High School Geography Project stresses the understanding of ideas.

The course emphasizes the geographer's mode of inquiry rather than his accumulated knowledge. To develop students' ability to use geographic techniques in the analysis of problems they will meet in the future, calls for awareness of the orderliness in the arrangements of phenomena over the surface of the earth, and awareness of the interconnectedness of people and things in different places. Throughout the course there is emphasis on problem-solving which reflects the major research problems. We have also tried to bring into the classroom the excitement found at the frontiers of research.

The titles, content, and major research emphases of the ten units of the "Settlement Theme Course" are shown in the table. All the major research traditions are represented in the course, though with quite different emphases. Spatial geography, or location theory, has the most prominent role, reflecting the current strong interest of many geographers; it is present in all of the units, and dominates four of them. Cultural geography is dominant in units 6 and 7, physical geography in unit 8, and political geography in unit 9.

SETTLEMENT THEME COURSE OUTLINE

Unit	Title	Content	Major Research Emphases
1	Introduction	Statement of basic problems of geography	
2	Urban Geography: Intercity Analysis	Relation of city to site; land use; city growth	Spatial, Physical
3	Urban Geography: Intracity Analysis	City size and functions; relations among cities	Spatial, Regional
4	Manufacturing and Mining as Settlement-Forming Activities	Location of manufacturing; city size and growth	Spatial
5	Agriculture	Location of agriculture, and its relation to cities	Spatial, Physical
6	Culture Change	Culture innovation and diffusion	Cultural
7	The Habitat	Relations between man, his culture, and the earth	Cultural, Regional
8	Fresh Water Resources	Water needs, supplies, and management	Physical
9	Political Units and Political Processes	Interaction of political and geographic features	Political, Regional
10	The Frontiers of Geography	Unsolved problems	

Tools and Sequence

Since there is a strong emphasis on problem solving throughout, appropriate levels of research technology are introduced to help the student learn how to solve problems. There are simple statistical procedures, simple map work, and other tools from the geographer's kit. Students are given tasks which require that they observe things and relate their observations to various types of data about the things they have observed; for example, to census data.

Later in the course there is quite a bit of emphasis on the use of things that extend our ability to observe, such as air photos. Air photos are not direct observation, but they are about as close as you can get to direct observation,.in a school situation,.of large surface areas.

One unique aspect of our approach is that we start with the city, which is the most immediate part of the child's environment, and end eventually with the entire globe. We build from the city to systems of cities, using central place theory, which relates the village and hamlet to the city, and the city to metropolitan areas. We then move to the inhabited parts of the globe that are not highly urbanized--the non-Westernized or underdeveloped world--then to those parts of the world which are not inhabited, but cover a lot of the earth's surface. We finally end with the globe, which geographers feel must have a place in any course. In Unit 9, "Political Units and Political Processes," we stress problems of nation states inhabiting a single globe, as part of a single, interacting system.

Conclusion

The course is concept-centered. Concepts relevant to each unit were selected, but with a view to choosing concepts that are also common to a number of units. The final unit, not yet written, may summarize and integrate the conceptual structure, as well as pointing to the frontiers of research.

The inductive approach is used in the course whenever it is feasible. However, a healthy balance must be struck between the inductive and deductive, and times does not permit the inductive development of all concepts.

By and large, I am satisfied that the "Settlement Theme Course" reflects "the geographer's way."

---

[1] National Research Council, The Science of Geography (Washington, D.C.: The National Academy of Science, 1965).

CHAPTER 7

CONFLICTING CURRICULUM OBJECTIVES, AND TEACHER TRAINING

Competition for a Place in the Curriculum

Taba: What does happen, or what should happen, to geography and history, which have traditionally taken up most of the time devoted to social studies when economics, sociology and other social sciences begin asking for space in the curriculum? Is it possible to make specialists out of all the children in all these subjects?

Fenton: I think that is the wrong question. We should not be concerned with what is going to happen to "poor old history!" The proper question is, What behaviors do you expect the child to exhibit at the end of his school career in the area of social studies? Then you define the behaviors, and the behaviors imply contents, materials, teaching strategies, and the rest. If each social scientist is prepared to fight to get his discipline into the curriculum, we will never get anywhere.

Taba: I agree.

McNee: Personally, I don't mind a fight, in the sense of competing in a free market. The people who make the decisions about curriculum content should be free to choose from among all the things the disciplines have to offer, and the people in the disciplines should be free to make the best case they can for their product. But I want to say that the kind of geography I want to sell to the schools is not in the curriculum now. Children should be exposed to the same kinds of problems that research workers are trying to solve, not to the insignificant questions that are now so common in geography as well as much of the rest of the curriculum.

Behavioral Versus Other Objectives

Sigel: How does Professor Fenton's statement square with what he is doing? Why is he concerned with defining the structure of history, if behavioral outcomes are the main objective?

Fenton: I did not know about behavioral objectives when we started our project; I am still learning about them, and find them very useful. We hope to achieve three kinds of behavioral objectives: attitudes and values, inquiry skills, and some content objectives. There are a number of criteria by which one can select content; only one of these is the structure of the discipline, phrased as analytical questions. We are using the structure of the discipline, phrased as analytical questions, as part of the process of inquiry, of hypothesis formation. We also have other criteria for the selection of content. Some parts of content are selected to meet the needs and the interests of our particular audience, which consists of able high school students. These students need content that is relevant to college careers. We also select content because it is related to problems that are important in the modern world. In studying Africa, for example, we focus on the problem of apartheid; and in India, we focus on the problem of economic growth. We also select content as a result of our judgments about the minimum things that any educated American should know, such as the identity of Pericles and Machiavelli. We have to admit that such choices reflect our own value system.

Taba: When you have such a broad range of objectives, aren't you concerned about whether you are covering enough history?

Fenton: It does not bother me that we are not "covering" enough history. You and I both know that the nation of "coverage" is a silly one. We cannot cover one-hundredth of one percent of all that is known anyway. But you could pick me up properly, because I have also said that there are certain minimum things that we should "cover." These come out of my own value system, and I am perfectly willing to make clear to everyone what my values are.

Hering: In the sociology project, an internal conflict is developing. Some people in the project are talking about developing a course in sociology, using the inductive approach; others are talking about evolving "episodes" that can be integrated into a government or history course.

Professor Fenton said he does not see sense in a chronological study of history, and in fact the other social sciences should be studied first before approaching history. I agree with much of what has been said about improving the curriculum, but how are we going to create students who are experts in economics, in geography, and all the other social sciences as well as all the other subject matter outside the social sciences? How will the poor elementary teacher, let alone the secondary teacher, manage all this?

Morley: When you write instructional objectives, as we are constantly doing in the school systems, you have to specify the components we have been talking about here. First, you have to specify some package of materials, titled in some fashion and containing a certain content and conceptual structure. Second, you specify how students are to deal with the materials, in terms of some taxonomy of behavioral objectives, such as Bloom's. The problem is not one of neglecting content or process, because you have to specify both. The problem is that, when this is done, the teachers are locked into a pretty precise operation. A lot of our teachers don't want to be squeezed that much. They ask: Where is creativity? Where are values?

McNee: It isn't a matter of choosing between content and process. The geographers in our project think in terms of a conceptual structure. But the Educational Testing Service people who are working with us keep saying that we have to state our objectives in behavioral terms. You have to keep up a dialogue about the proper relationship between the two.

Taba: In talking about content versus behavioral objectives, we are not taking a broad enough view of the whole educational process. Dr. Ralph Tyler, whom I would call the grandfather of behavioral objectives, listed four objectives of learning, in the Eight-Year Study, in the 1930's. One is knowledge; Dr. Tyler said that the trouble with knowledge was that it was not conceptually structured, and we are dealing with that problem now. The second is the area of cognitive processes: thinking, inquiry, question-asking. The third is values and attitudes. The fourth is skills. When you have taken care of concepts, knowledge, ideas, and so on, you have only done one-fourth of the job. The rest of the job which we have lumped under the "process" category, has to do with how the students learn and how the teachers teach, and unless that package is also worked out, three-quarters of the job is left undone. The knowledge package alone, no matter how it is put together, does not get these other things done.

Saylor: Yes, we must recognize different categories of objectives; they don't all fit under one heading. Some objectives can be properly stated as immediate behavioral outcomes; others as behavioral potentials--the knowledge and understanding needed for behavior later on.

Fenton: Among the behavioral objectives related to attitudes and values, I see three kinds. One kind is behavioral attitudes which are necessary to important social processes, such as teaching in the classroom. We must insist that children do not throw spitballs and stink bombs in the classroom. There are also procedural values; for example, that subjecting judgments to the test of evidence is a better way to proceed than accepting something from authority. Then there are substantive values; for example, that democracy is better than communism. We have a right to teach behavioral values; and to try to develop certain procedural values; but with regard to substantive values, all we have a right to do is to ask the students to examine them, to reflect on them.

Fenton: We need much more than materials, and I am sure Professor Senesh will agree with me. We need an enlightening and convincing explanation of what we are doing, of what our objectives are, in order to persuade the consumers in the free market, as Professor McNee puts it. We need to develop, with an enormous amount of help from teachers, the various possible teaching strategies for our materials, and ways of supporting and elaborating our materials with methods books, films and other aids. And we need a major commitment of resources to pre-service and in-service training. For one thing, all the NDEA projects ought to get all of our materials; then the teachers should analyze the materials and report back to their colleagues on them. None of this is being done now. The government is putting money into many separate projects and activities, without getting the additional benefits that would come from cooperative relations among them. An organization like the Consortium is an enormous help on this problem.

Organizing the Disciplines for Teaching

Senesh: I would like to make a statement on the matter of crowding the curriculum with more and more disciplines. I am not asking more time to teach many social sciences than the time already being used today to teach under the flag of social studies. And I am not arguing for the teaching of economics as a discipline. I tried to make clear in my talk that I am not talking about a subject matter approach, but an orchestration of all the social sciences, showing their relationships to each other as a background for the development of teaching units. I am talking about problems and units in the curriculum, not disciplines; the disciplines are used as they are needed, usually with one or another discipline playing the chief role at one particular time.

In developing teaching methods for the new materials, it is very important that the teaching of skills and the teaching of subject matter be closely related--using problems, pictures, simulations, and games, to teach both skills and content. If a teacher tells me that she cannot teach social studies in the first grade until

February, because children cannot read sentences until then, I have to ask, What kind of sentences are you teaching them? Don't they have any content? What is the sense of teaching sentences if the sentences don't make sense?

The problem of training teachers is a very difficult one, but I have some suggestions. The first suggestion is not to add some more introductory courses in the social sciences, each with an 800-page introductory text. What is needed is cooperation among the disciplines, with the focus on solving social problems. I would be delighted to teach a course in cooperation with Professor Fenton and equally able and imaginative people from the other social sciences. I am sure we would never have any disagreement, or feel that one is pushing the other out. All I want is the opportunity to sneak in the economic analysis that is necessary to understand why farmers demanded cheap money, when Professor Fenton is talking about the farmers' demand for cheap money. When the gold rush is the subject, I don't want the children to connect it only with saloons in San Francisco; I want them to understand the economic causes and consequences of the gold rush.

When the problem of cooperation between the social sciences in teacher training is solved--and it should not be too great a problem to solve--we still have a very big problem. That problem is cooperation with the methods people. There is practically no relationship between the people in methodology and the people in subject matter. They work in adjoining buildings, and never see each other. Nothing moves from one building to the other except the students, and after four years the students might well ask, "Are all these trips necessary?"

English: I agree with Professor Senesh, particularly regarding the teaching of a lot of different and unrelated courses in the various disciplines. I wonder if that is wise, either at the college or high school level. Knowledge for each course is learned, tested, and forgotten. Some relationship and continuity between the disciplines is needed.

McNee: I think Professor Senesh has given the answer to the problem of unrelated disciplines and rote learning. If courses are taught by the inductive approach, the problem is solved.

The Problem-Solving Approach

Berlak: I am not convinced that the problem-solving approach is the answer to all our problems, or that it has any value at all. In the first place, we haven't defined what we mean by problem-solving, or what we mean by problem-solving as an educational objective. In the second place, we do not know that problem-solving ability carries over from one subject to another, that teaching problem-solving in geography will help students solve problems in history. I think each of the curriculum projects has the obligation of thinking through these two questions before they rely so heavily on the inductive approach.

McNee: The reason I am so convinced about the necessity of teaching the inductive method is that it is essential to science, and we have a culture to which science gives the main thrust. Scientific method is the highest value in our society. There are other values too, but this is a world of science. In order to prepare the student for the kind of world in which he lives, we have to show him how science works and what the scientist does. Teaching students what scientists have learned doesn't do much good, because half of what anyone learns this year will be obsolete in ten to fifteen years. That is why I am so strong on problem-solving.

Sigel: But you solve different problems in different ways. A problem in aesthetics isn't solved the same way as a problem in geography or chemistry. We have to define what is meant by problem-solving, and to discover the specific operations required to solve problems; then we need particularly to reinforce the understanding and behavior that is general rather than specific to certain kinds of problems. Problem solving is not the private domain of certain content areas.

Taba: I would like to follow up the question of what are the skills of problem-solving. There have been some sacred routines for problem-solving for twenty-five years, and the problem with all of them is that it is a mechanized process: there is a ritual, but no understanding of the process. The people who are talking about problem-solving have the obligation of defining the necessary skills and the methodology; and this knowledge must then go into teacher training.

Use of Concepts in Problem-Solving

Featherstone: I want to go back to Professor Fenton's comments about the place of concepts and generalizations in planning a curriculum. I agree with him that they can be useful in the preliminary organization of course material. And I also agree with him that the real objective is to get the child to develop his own concepts and questions. The really successful course is one in which the student moves beyond the planner's design of the course. What I still do not understand, though, is how you relate behavioral objectives to materials. Could you give some specific examples?

Fenton: We want our students to know how political decisions are made in any sort of government. We gave our 10th grade students some diaries written at the court of Louis XIV, from which they could independently form analytical schemes to explain the government of the time. There are some interesting things in the diaries. For example, one diary tells about a king who is stopped during a walk down the street by a courtier who asks for and gets a favor. This is an access question; how do you get access to a decision maker? There is a lot of information about who gets to be a decision maker. The king becomes one because he was sired properly. A lot of other people get to be decision makers in the same way. Still others are recruited from various areas in the society because they have particular sorts of backgrounds. The diaries give much fascinating information about the recruitment of political leaders and about access to political leaders. There are interesting questions about institutional arrangements: in what institutions should decisions be made? The information and application of analytical questions from political science and history helps the students understand more about political structures.

Featherstone: I have a feeling that Miss Plessner and myself are doing exactly the same thing in the Colonial course. It amounts to teaching children to use induction, analysis, evidence, and testimony, and to make inferences.

Fenton: We built these questions into the 9th grade political science course, and then we challenged the students to use them in the 10th. What delights me is that they sometimes turn up with questions that didn't go into the 9th grade course. They were able to generate analytical questions that they had not encountered in previous courses.

Taba: You are taking it from the angle of what questions it generates. Let's look at it from the angle of what skills are required; there are at least four. First is the ability to identify pertient points in the diary; to know what to look for. Second is relating one point to another. Third is going beyond the material given in the diary to make inferences. That is very difficult; most of us stick closely to the data given. Finally there is verification of the universality of whatever inference is made. What are its limitations? These skills refer to the process of analysis, something different from question-asking.

Fenton: First you ask questions, then you make an analysis of the data available to answer the questions. That is, you hypothesize and then you validate, abandon or alter the hypothesis.

Taba: Yes, those are the skills. My question is, Are these teachable things? And are they generic enough to apply to a political document, a diary, a chart, a map, or whatever?

Stake: I agree with Professor Fenton about the desirability of using behavioral objectives in curriculum construction, and it is delightful to hear a historian talking like an educational psychologist. But I have recently run across an example to shake my faith, a little, in behavioral objectives. The AAAS elementary science project, with behavioral scientists well represented on its board, has a curriculum which is highly oriented to the processes of scientific inquiry. Some scientists who are starting to raise strong objections to this curriculum, because the structure of scientific ideas has been slighted by the emphasis on process. What I expected to find in this discussion has not come about. I expected most of you to favor the conceptual, or structural, approach. I am very dubious about the conclusion that the processes we have talked about are far more important to the curriculum than the content, the concepts, the generalizations that are being pushed down the priority list.

Teaching Values

Shaver: I agree with Professor Fenton's earlier comments that we need to be cautious about inculcation of values. But it is not always easy to draw the line between procedural and substantive values. In our society we have certain commitments as individuals and as teachers, perhaps including the obligation to inculcate values that go beyond the procedural ones. I would be very upset if a child in my class said, "People do not have a right to equal opportunity. It is a ridiculous notion." I would have the feeling that this child is out of touch with reality, that perhaps his home and his education had failed him.

Senesh: I would not be at all upset by the child who complains that people do not have a right to equal opportunity. This would be as exciting to me as a new epidemic is to a medical student. I would pick up the issue, asking "Does a problem exist with respect to equal or unequal opportunities?" I would bring out pictures--protests before a courthouse, for example. I would establish the existence of a problem, as the first step, by showing the symptoms of the problem.

Next, I would define the problem, that people want something that is not provided for in our system of institutions; and social problems are always of this nature--a disparity between desires of people and the social arrangements.

Next, I would look for all the relevant facts that I could find, from the sociologist, the anthropologist, the political scientist, the economist, and so on. I disagree with the people who deplore the fact that the facts of the sociologist are different from the facts of the economist, as though this means that the facts of one of them--or, more likely, both of them--are wrong. The problem of discrimination is an excellent example of a problem for which we can use the expertise of many disciplines, which calls for great skill rather than for deploring the different views taken by different disciplines.

After the scope of the problem had been established, I would ask what its causes are. From economics, I would sneak in the analytical tools of market theory and welfare theory, to explain the existence of unequal opportunities. I would ask the other social scientists to use their analytical tools to help explain the causes of the problem.

Finally, I would propose solutions to the problem. What can individuals do to solve it? What can be done cooperatively? What can be done through the government?

This is an excellent example, on which we can build an integrated social-science problem approach. I think I would even bribe children to bring in problems like this.

Teacher Training--Getting the Materials Into the Classroom

Fenton: I do not know how we will resolve the question of teacher training. It will not be through institutes such as the NDEA institutes last year. There were 3,200 teachers in history institutes and 1,400 in geography institutes. I don't know how the geography institutes were, but the history institutes were very inadequate.

McNee: The geography institutes were still worse.

Fenton: The institutes did some good things for the teachers, and I don't underestimate that, but they are not going to have much effect on the behavior of the children. Most of the historians who ran the institutes looked upon their functioning as that of communicating the latest research results on Jacksonian democracy to the teachers. Such knowledge will not be of much help to a teacher who has a class of disadvantaged eighth-grade children in a big city.

Hering: But Professor Senesh seems to feel that there are a lot of teachers who are all ready to use new ideas and new materials, who say, "Fine, just give me the materials; I want to teach economic concepts in the first grade."

Featherstone: I think it would be extremely useful if we would stop talking exclusively about general concepts and principles and would talk about specific classroom materials, as illustrations of concepts and principles, as Professor Senesh has just done. I have had trouble today because I can't see how the things we are discussing would actually work out in the classroom. Talking about theoretical curriculum development should always be done with reference to specific classroom materials. We could be clearer, for instance, about this whole business of behaviorally-stated goals. It would take us more time, but I think it is absolutely necessary.

Gibson: Some of our work at the Lincoln Filene Center, at Tufts University, is relevant to the comments that have just been made by Professor Senesh and Mr. Featherstone. We have a K-6 curriculum project in the area of racial and cultural diversity, dealing with the preparation of instructional materials that provide an alternative to the "lilly-white" elementary social studies textbooks and readers that are still common. These materials have behavioral goals, and they are concerned with problem-solving. We know full well that instructional materials are not going to do the whole job in this sensitive area of racial and cultural diversity, and we are trying various strategies in the area of teacher education, which you might be interested in knowing about.

We produced twenty-eight 45-minute programs for teachers last summer, under Title IV of the Civil Rights Act, designed to go with curriculum projects that deal with the problems of racial and cultural diversity in the United States. We have done a number of films with McGraw-Hill that are designed for pre-service and in-service teacher education. I think video tape and films, accompanying the development of instructional materials in projects, can do a great deal to help the teacher cope with the ideas and materials that come out of the projects. Professor Fenton has produced some films about his project, which I think are very helpful to teachers. We have in the script stage at Educational Services Incorporated a film to introduce the "Subject to Citizen" theme of the junior high program.

In addition to producing materials to aid in teacher education, we have kept in close touch with state commissioners of education and superintendents of schools and classroom teachers in the nine Northeastern states that are close to our Center. Last fall, we invited a large group of teachers to participate in a two-day conference at which four directors of projects producing economics education materials at different grade levels explained their projects and their materials.

I think that when we try to communicate as project directors or as social scientists, we should have many teachers involved. We should also follow up to see if the conference is helpful to them in revising their curricula and taking account of some of the new things that are going on. I do want to emphasize that in the area of teacher education, there are many possible ways in which project people can help to get these materials and ideas directly into the classroom.

Hering: The big problem I see is finding people who are able to integrate and implement these materials. Our projects must concern themselves with this problem.

I am very pessimistic, having been a teacher very recently. I don't think that many teachers are equipped to deal with these ideas yet. I don't think the materials we are producing are really getting to the heart of the problem of helping teachers, especially in the elementary grades. I don't think we have the personnel that is needed to get our materials to teachers in an effective way.

English: In my work with the Educational Research Council of Greater Cleveland, I have been tremendously impressed by the fact that a movement from the schools has been generated, demanding improvement of the curriculum. This certainly makes life a lot easier for someone who is trying to improve it. We have thirty-odd school districts, all of whose superintendents are right behind the effort to improve the teaching of the whole curriculum, and they have persuaded a good percentage of their teachers to be just as enthusiastic. Perhaps we could get similar local councils in other parts of the United States to work in close cooperation with the teachers. It might solve some of the problems we have discussed. I would add, too, that we have tried many types of experiments in in-service education; we have the kind of teachers' guides that Professor Senesh spoke about, and we are trying to help the teachers in every way possible. We have summer sessions, classroom visitations, and at present we have a tele-lecture series that goes on every two weeks, in which we have about 5,000 teachers listening to talks by experts. The talks are followed by question-and-answer periods in which the teachers try very hard to put the speakers on the spot. I think we have generated a good deal of enthusiasm, and that this is the kind of local participation and enthusiasm that is essential for the changes for which we are hoping.

Shaver: One reason that curriculum projects have failed in the past to get into the schools is because of inadequate mechanisms for getting materials to people who would like to use them. There are several reasons for this failure. One is that some projects are reluctant to release their materials, or even information about their work, until everything is finished to perfection. Another is that funds are inadquate for new materials. Another is that there are too few opportunities for teachers to look at and learn about new materials.

In Salt Lake City, nineteen elementary schools are using Professor Senesh's materials with culturally deprived children, financed under Title I of Public Law 89-10. That is one way that materials can be made available. Other ways are needed, and perhaps publishers, project people and school people could all play a more active role.

Symmes: In our Developmental Economic Education Project, at the Joint Council on Economic Education, we have a large network of affiliated local councils for teacher education. We try to do a great amount of in-service education and, at the same time, build curriculum materials. We are working for kindergarten through grade 12.

One of the things that I have found satisfying in this conference, and what I have seen lacking in the economics education program, is the presence of teachers or college professors of economics who have an understanding of the structure of the discipline of economics and can communicate it. What we need to do is to get a definition of the structures of each of the disciplines that can be communicated to the teachers. This has not been done, and I see the Consortium as an organization that could do it.

The other thing needed is to design a new structure of social studies--to create a new discipline. Some people, Alfred Kuhn, for example, are attempting to do this.[1] What we need to communicate is the structure of the disciplines, and then teachers can start to teach, because the bits and pieces will have something to hook onto.

Arbital: We have had a curriculum revision program going on for some time now. There is an entire district in New York, as well as schools in other districts, using the Professor Senesh Grade 1 and 2 materials. We have also been using the Lincoln Filene material, the Educational Services Incorporated material, and the New York State proposals, and our own. In response to a position paper last year on revision in grades K-12, we had 17,500 replies from teachers. Teachers from all levels responded, from kindergarten through twelfth grade, and they indicated what they liked and disliked about the present curriculum. I disagree with those who think the teachers are not ready for change--they are quite high. They are dissatisfied with what they have been doing, and they want change. When they are given opportunities to experiment with new materials, they do quite well.

We are getting a lot of feedback from 130 schools using our own materials, which are rather loosely organized. In the feedback we expected people to say, "I like this." "I don't like this." "Throw this out." "Add this." This isn't what we are getting; we are getting materials that teachers themselves are developing in the classroom, as a response to our materials. They are sending us lesson plans and asking that they be evaluated. We are finding that many of our teachers are active and creative and innovative at this moment.

Silverman: In a county that prizes reading and arithmetic in the elementary grades, I have found a devious method for getting new social studies into the curriculum. This is by choosing materials that are readable, and interesting to children, and that contain some of the bigger ideas that we wish to get across. I would submit to you people in the projects that you not only prepare good teachers' materials, but that you also get people started writing things that children will enjoy reading, and that you also educate your teachers along with the children. One reason that people in Miami were eager to get Professor Senesh's material is that is is usable by children.

Senesh: I would like to close with three points. First, I am sorry that we did not pick up the question of evaluation. I do hope that this subject can be discussed later; I think it is very important. I would like to know what the innovator's relationship is to the whole evaluation process. Second, I want to clarify something that was said about chronology. I think what was meant was that the usual approach to chronology should be revitalized so that historical sense develops for the children, so that when you say 1776, or any other date, more than one event comes to mind and the whole historical period opens up. The idea of time-sense should be used instead of the conventional one of chronology. Third, I firmly believe that people who are teaching knowledge are not neglecting the behavioral objectives. We feel strongly that the basic emphasis on knowledge in our society helps make the individual a better participant and leads to appreciation of our political and economic system.

---

[1] See Alfred Kuhn, The Study of Society: A Unified Approach (Homewood, Illinois: Richard D. Irwin and the Dorsey Press, 1963).

CHAPTER 8

CONCEPTS, STRUCTURE AND LEARNING

Irving Sigel
Merrill-Palmer Institute

Designing the Curriculum to Fit the Consumer

I thought I would respond to a number of things which happened today. First, I am surprised to find we spent most of the day discussing curricula without paying attention to our consumer--the child. If it were not for the child, we would have no job. Therefore, when we talk about a curriculum, we must raise the question, Where does the child fit in? How, in fact, do we relate the fancy structural concepts of a discipline to this developing organism who is different in kindergarten from what he is in the twelfth grade--not only by virtue of having been exposed to a curriculum, but also through the influence of society outside the school?

The whole discussion about values I found most interesting because it ignored the fact that the child comes to school not as a tabula rasa but as an individual who has a number of predispositions to respond to and select stimuli. To assume that the school has such significant effects on values, without taking into account the influence and possible conflict that can arise between home and school, seems presumptious.

As a developmental psychologist, my point is that there are at least two major considerations in planning curricula. One is the developing nature of the child, both cognitive and effective. The other is that he does come to school from an environment which has already had tremendous impact on his way of thinking, reasoning, and feeling. If we look upon social science in this way, I would say that there are at least five categories of outcomes or goals that must be kept in sight.

The Goals of the Curriculum

First, there are certain behavioral outcomes which are actions and intentions. That is, it is reasonable to expect some changes in behavior as a result of input. Second, there should be a knowledge change. The rate and amount of this knowledge change will always depend on the child's actual and potential attainment. Next, there are values and beliefs that should emerge, not necessarily through the teachers' explicit behavior but implicity, because children use adults as models. The fourth goal concerns motivation. This must not be confused with behavior. The kinds of motivation which should be the outcome of a curriculum are interest, persistence, and concern.

Finally, a problem-solving strategy should evolve. The child must develop a way of knowing how to go about solving problems. Problems can be viewed as conflict-laden situations, and solutions must be rendered which lead to the resolution of problems. Solving problems in the social sciences is more difficult than in the physical sciences, since solutions are not so clear-cut. Our solutions are tentative, subject to change. This puts problem-solving in the social science disciplines in a place that is unique. One has to learn to tolerate ambiguity in the social sciences. A striking example might be that of taking children to see a city council in action. They might see continual disagreement, no solution to problems, and only tentative or partial completion of tasks. Five years from now they may still see similar wrangles over poverty, housing, etc. Yet the students need to acquire perspective here. So you see, the strategy that children must learn is how to handle conflict situations, how to tolerate partial solutions, and what expectations to have. The curriculum must provide a strategy for dealing with such problems.

You may not agree with these goals. For me, a successful social science curriculum will provide the necessary knowledge upon which to make decisions, a set of problem skills to aid in attacking a problem, and the awareness that all solutions are true only until proven wrong. We can only hold our "truths" temporarily. They are dated.

Shaping the Curriculum to the Needs of the Educational System

The second area to which I would like to address myself is the context in which these curriculum changes are taking place. What are the ingredients of this microcosm we call education? Important variables are the teacher, the child, the social structure in which the teacher and child are interacting, and the atmosphere in the classroom. With regard to the teacher, we must clearly see her role as a member of a complex hierarchical society. No matter how innovative she wants to be, and no matter how fancy the curriculum, her success is in part determined by the attitude of the administration. If she has a principal uncommitted to innovation, that teacher will likely not innovate. Alternatively, if you can't get the teacher involved in curriculum development with real career enthusiasm, the fancy curriculum will still go unused. If the teacher is committed, it is reasonable to question such variables as competence in teaching, the strategy the teacher can employ in implementing any curriculum, and the flexibility shown in moving beyond the tight curriculum bonds.

In addition, there is the school organization to consider. Teachers have to function in this social structure and it may be pertinent to ask whether the curricula can really be used in the various kinds of school organizations. For example, if a non-graded school is involved, can the curriculum be applied? What about the relationship between grades in a graded school?--how much chance is there for continuity? How much autonomy does the teacher have in dealing with curriculum matters? What is the place of social science in the total program? Also, what teaching aids are to be used to elaborate the teaching: visual materials, laboratories, experiences, and trips? This still leaves the question of how these experiences fit into a total picture. Seen in this light, the selecting and structuring of information appears as another basic problem.

Lastly and crucial is the child himself. I wish to discuss him as a cognitive being, using Piaget's ideas on cognitive development.[1] One basic assumption is that intellectual growth is sequential and irreversible. The child moves in a pattern of development from what one might call a sensory-motor, action-oriented point very early in life, to the point where he becomes a logical, thinking adult. The mental skills that the child acquires at one stage are not necessarily fixed at that stage forever. In other words, there is constant reorganization, and development of new skills. The best illustration I can think of is the way we study causality. I rub two objects together and create heat. Here is a kind of simple cause and effect relationship which we can discuss in Grade One. In graduate school we can read philosophical texts on causality, still dealing with the same problem which now is a complex set of issues. As the child acquires these kinds of skills he achieves a certain equilibrium, then acquires new information which requires reorganization of his cognitive structures, and goes on again. According to Piaget there is a constant process of assimilation and accomodation, which in effect is the acquisition of new information and reorganization of one's posture toward problems and issues as a result of this new accomplishment.

We take the position that the child is ready for certain things when he can perform the prerequisite intellectual operations. For example, in the geography curriculum presented by Professor McNee: in order to handle the material the child has to understand multiple causality, probability, the concept of space and the concept of time. If this curriculum is due to begin in the tenth grade, then it is probably suitable. Similarly, in the history curriculum presented by Professor Fenton, it is necessary for the child to be able to look at the same event from different viewpoints, picking out salient features, either by observation or inference, and ending up with a set of integrated understandings of a complex historical event. Readiness, then, is a function of operations that the child is already able to perform, and he is ready provided he has acquired the prerequisite skills for new experiences.

Cognitive Acquisitions Necessary for Understanding the Social Sciences

I am going to suggest a number of the cognitive acquisitions which seem most relevant to the social sciences. One is the ability to think in terms of natural causes--to see how an event is determined by other specific events. For instance, if you behead a king, there are certain outcomes which are different from the outcomes of just putting him in jail or not doing anything. Here the child needs to be able to conceive a variety of types of causes. A second cognitive requirement is the ability to think probabilistically. Children, especially under the age of seven, tend to think in absolute terms about causation and the future; but to work in the social sciences it is necessary to be able to make probabilistic inferences.

The ability to classify and to group things in hierarchical structures or relational structures is another important cognitive acquisition. To do this the child has to be aware that every object, person, and event has multiple characteristics; this poses the problem, Do we classify on the basis of one, two, three or more criteria? From this decision emerges a sequence of hierarchies, depending on the child's ability to coordinate the properties. This is a very complex task, but we can teach classification if we are sensitive to its complexity. The ability does emerge without direct intervention, but as interveners and educational planners it is our duty to be aware of the possibility of including appropriate experiences to facilitate the child's acquisition of classification skills. In a number of studies, we have been able to teach five-year-olds to classify objects in a multiple way, and to construct new groups by addition (e.g., forming a group in which the blocks are red or round) and by multiplication (e.g., forming a group in which the blocks are red and round). These operations are similar to the set theory children are now studying in the "new math," experience which should have some influence on how they are able to deal with social science materials.

Last in this group is the ability to understand conservation, the principle that objects retain certain charecteristics in spite of transformation in role, appearance or space. Conservation is often illustrated by Piaget's experiment with two balls of clay identical in shape and quantity. One ball is transformed into a sausage or a pancake. The child is asked if each ball contains the same quantity even though the shape differs. There seems to be a definite stage when a child realizes the balls of clay are equal in quantity even though the shape differs. He conserves the essence in spite of transformation. The idea that an object maintains its identity in the face of transformation is a complex yet crucial concept.

Our research shows that a child understands conservation only if he understands three principles. One is multiple classification, already discussed. Another requires the child to be aware of potential disparity between what he sees and what is in fact true. Children shift from being literal, bound by the observable, to the ability to make inferences. Two one-half pint containers may vary in shape, but still hold the same amount of liquid. To grasp this requires comprehending that what is perceived is not necessarily true; it is also necessary to understand that changes in one dimension can create changes in another, an application of the principle of compensation. The third ability required to understand conservation is what Piaget calls reversibility. The child must understand that the ball of clay, after being transformed into a pancake, can be molded into a ball again, with the original quantity of clay intact. Conservation is a relevant principle for social science; the fact that a person maintains an invariant role in the face of social transformations, for example, is relevant to political science.

Given the four cognitive acquisitions just described, the child is ready to start thinking in formal terms: to generalize and construct hypotheses on the basis of observations, to make deductions from hypotheses, and to test the deductions and modify hypotheses on the basis of further observations.

Implications for Curriculum Planners

I have not spelled out a full theory of curriculum development, and I do not think this can be done at the present time, when only the most causal acquaintanceship exists between curriculum developers and we child developmentalists. Nevertheless, I think I have suggested more than enough substance to keep curriculum workers busy for a while.

Let me confine these remarks on curriculum planning to the subject of classification, which may seem to many an unimportant matter that can be handled in a few days, if it deserves a place at all. I shall suggest a sequential development, beginning with the simplest tasks and ending with thought processes that are rather complex.

1. Classify a group of objects into a few classes; for example, a group of blocks into round and angular; or into red, green and blue; or into yellow, blue and other.

2. Classify a group of objects into two groups, then subclassify each of the groups into two groups; for example, classify a group of foods into fruit and sandwiches, then subclassify the fruit into apples and oranges and the sandwiches into jelly and cheese.

3. Merge several groups of objects into larger groups on the basis of a new classification; for example, red, green, yellow, and plain blocks into dark-colored and light-colored groups; or robins, cardinals, cats and dogs into winged and four-footed animals.

4. Classify a group of objects on the basis of two characteristics for each group; for example, a group of blocks into red-round, red-square, green-round and green-square.

5. Using the four groupings of item 4 above, form alternative (i.e., not simultaneous) groups that are red-or-round, red-or-square, green-or-round and green-or-square. These examples represent logical addition.

6. Again, using the four groupings of item 4 above, form alternative groupings that are red-and-round, red-and-square, green-and-round and green-and-square. These examples represent logical multiplication.

At each stage of the sequence suggested above, the application can be expanded in each of two dimensions. First, a larger number of categories can be used; this will enlarge the child's familiarity with and ability to handle the basic concepts. Second, and much more important, other types of objects or instances can be used: instead of blocks, food and animals, we can use personality characteristics (for example, happy, sad, irritable, demanding), group situations (harmonious, tense, unfamiliar), historical episodes (wars, revolutions, territorial expansion) and social problems (depressions, graft, juvenile delinguency). It is possible to construct an indefinite number of such illustrations, because of the simple but crucial fact that all objects or instances in any class have many attributes. It should be clear from these suggestions that a very broad range of important and difficult things can be manipulated within the framework of classification problems. Perhaps less clear is the fact that the applications suggested are leading toward an understanding of probability and causality in social phenomena.

Summary

The educational system should be directed toward the accomplishment of a number of interrelated goals: toward modifying and developing the child's behavior, knowledge, values, motivation, and problem-solving ability. Curriculum planners, teachers and administrators must all be aware of certain characteristics of children and of child development, if they are to be successful.

If we think of planning an educational program for a particular child, beginning at a particular time, we must take full account of the experiences he has had up to that time. He is not a _tabula rasa_, even at the age of five or four or three. But neither is the pace and sequence of his development fixed for all time, even at the age of eight or ten or twelve. Drawing on the theories of Piaget, we have argued that there is a certain necessary _sequence_, but not _timing_, of development.

In his early stages, the child is sensory-bound, action-oriented and literal-minded. His development into an adult capable of the inferential, hypothetical-deductive thinking required for analysis in the social sciences must follow a certain sequence. Specifically, he must learn to think in terms of natural causes, to think probabilistically, to perform simple and multiple classification, and to understand conservation.

---

[1] These ideas are presented with more detail in Irving Sigel, "The Attainment of Concepts," in M. L. Hoffman, and L. W. Hoffman, eds., _Review of Child Development Research_, (New York: Russell Sage Foundation, 1964), I.

CHAPTER 9

ROUND TABLE: THE NEED FOR CRITERIA, RATIONALE AND PERSPECTIVE IN CURRICULUM REFORM

Morrissett: We are now half-way through the conference, and it is time to take stock. How far have we moved toward our goals? Are there any important things we should be talking about that we have omitted? Are we wasting our time discussing the wrong things?

I have asked three participants to comment on these particular questions.

Senn: We can see where we are by referring to the conference goals. Happily, we have achieved some of them. "The exchange of ideas about approaches taken to social science content in the new curricula," given as the main purpose of the conference, has occurred most pleasantly.

There are, however, some doubts that much has been said that will contribute to the improvement of the social studies curriculum, another of our goals. We have had the benefit of several brilliant individual solutions to certain aspects of structure and content in the social studies curriculum. But precisely because they were individual, I am afraid they will not be useful for dealing with the real difficulties of social study content on a nationwide basis--even assuming educational pluralism. Two things are needed. One is a set of criteria for making educational choices from among the variety of approaches offered. The other is a way to translate the theories, generalizations, and insights we have heard into educational practice and reality. Just what improvements are to be made and how they are to come about remain important questions for us to discuss. Let me illustrate these points by way of a few comments.

It has been said that most of American education consists of teaching children answers to questions they didn't ask. Fenton and others suggest that we reform and teach children to ask questions they didn't ask before. Perhaps this is a step in the right direction, but answers are important too. Even if children learn to ask some of the right questions, they can't ask all of them. We have to teach some questions as well as answers, but which ones?

There has been little explicit discussion of models of curriculum reform. I am concerned about the implicit assumption that the appropriate models for implementing curriculum reform are the same in the social studies as in other major areas of curriculum reform--in the biological sciences, mathematics, and language arts, for example. I do not think that the model of curriculum reform that has worked in these other fields is applicable to the social studies. One reason for thinking this is that there are many more social studies teachers than there are mathematics, French or biology teachers. Another reason is that social studies teachers are not as well trained in their own fields as are teachers in those other fields. The nationwide assumption that the mathematical, language, and science models of reform will apply for the social studies is not realistic.

I also urge you not to forget that children deserve a childhood. Even if Bruner is right in saying that any subject can be taught in some form at any grade level, all the specialists cannot be honored. When will we discuss the question of priorities, and just how much of a child's time should be spent in study at different ages?

There are two other conditions that will handicap improvement in the social studies, even if we can find reasonably workable ways to deal with structure, content and method. Unless we pay much more attention to teacher training it will not matter much what we do to improve social studies in other fields. Not quite so pressing, but extraordinarily vexing, are the backward policies of the U. S. Office of Education. Although it has spent millions of dollars in the field of social studies, a sizeable fraction of this amount must have been wasted by a difficult and obscure grant-making process that takes up far too much time of good men. But this is not all. An obscurely simple-minded policy about copyrights on work produced with grant funds, combined with a failure to enforce dissemination of results of grants, has resulted in both wasteful duplication of efforts, and in reluctance of good men to work in the field.

Of course, I do not think that the Conference can deal with all of these issues, but we should consider them as we think about what we are going to do next.

John Stuart Mill defined an art as the best arrangement for putting the truths of science into practice. I think education is an art in this sense. The social studies are overwhelmed with truths from social science. We have got to devote ourselves to finding the best arrangement of the truths that Senesh, McNee, Fenton and others are giving us, in order to perfect the art of social studies education.

Berlak: The greatest need in a conference of this sort, and in our curriculum-making efforts in general, is for very clear statements of the rationale of the various curriculum positions. We need to know the assumptions, the philosophical underpinnings, the objectives, and the rationale of the plans for reaching these objectives, for each set of curriculum materials.

There has been a reaction against listings of objectives and goals, just as there has been a reaction against preoccupation with process. This reaction has occurred because the statements of objectives have been stereotyped, and not accompanied by complete descriptions of the whole rationale of the curricula. The whole set of educational decisions related to constructing a curriculum and putting it into practice needs to be spelled out.

There are three very good reasons why a clear statement of the total rationale of a curriculum is needed. The first is that clarity about goals is essential for the construction of good materials. The second is that a clear rationale is a great help in making evaluation instruments. The third is that the adoption decisions of schools can be sound only if those who make the decisions have good knowledge about the rationale of the curriculum materials.

We have had a long and fruitful history of discussion about the goals and priorities of education, going back at least to Plato. Plato had some clear ideas about the goals of education: the principal goal was to prepare leaders to rule. He specified the relevant content: for example, children were to learn about the gods at an early age. And he had some ideas about process: for example, children were not to use the method of inquiry when studying about the gods.

In the social studies, in the twentieth century, my favorite statement of educational aims is that of Charles Beard, in the 1930's.[1] Beard established the essential priorities, with proper concern for the disciplines, the child, the learning process, and so on. He did not build a curriculum, which probably was not his intention, but he asked the right questions and laid a sound foundation for curriculum work.

It is up to those of us who are developing curriculum materials to make very clear to potential users exactly what is in the curriculum packages we produce. If we do not do that, we put an impossible burden on the schools, requiring that they try to divine from our materials alone all of the basic assumptions, educational theory and hoped-for objectives that we have built into them. For the most part, they will lack the resources to perform this detective work; and if they are able to do it, it is wasteful, duplicative effort.

This is a plea for more abstract thought, more theoretical dialogue, about the basic assumptions, purposes and procedures of our curriculum efforts. What happens in the classroom is important, and the materials are important; but there is a danger of concentrating too much on these end products of curriculum efforts, at the expense of sound rationales for the difficult processes that must precede the construction and classroom use of curriculum materials.

Taba: In order to put the conference into a broader perspective, I want to look at the whole breadth of the educational enterprise. In making all the various kinds of educational decisions, big and small, there are six kinds of considerations that must be taken into account. These are:

1. Content, which is the subject of this conference.

2. Objectives, which include, in addition to knowledge, patterns of thinking, of values and feelings, and of skills; these, too, have structures, which have developmental sequences that must be followed.
3. Learning processes, which also have developmental sequences that must be recognized.
4. Types of learners: high or low ability, rich or poor cultural opportunities, rural or urban backgrounds, and so forth.
5. Teachers and their teaching strategies. Social science is particularly difficult for teachers to master and teach, because it is a federation of subjects rather than a single subject.
6. The school as an institution, which presents both opportunities and limitations that must be recognized in planning implementation and dissemination.

We should recognize the importance and complexity of all of these facets of the educational enterprise, before we put too much of our energy into developing any one of them, such as the structure of content.

We have had a number of changes in educational emphasis in the past thirty years, in most cases going to extremes. The Eight-Year Study was a protest against stale methods of rote learning of subject matter, and pointed the way to better methods of learning content. Then there were protests that too little consideration was being given to the child and the learning process; content was practically abandoned, in favor of an emphasis on process, which accomplished little because too little was known about learning theory. Since Sputnik, people interested in content have come into the field, and have ignored the learning process.

There has been a curtain between the "educationists" and the content people. The educators have worked on content, constantly rediscovering what the content people already know; and the content people have investigated learning processes, oblivious to many things the educators already know. The two groups have not only ignored each other's knowledge; there has also been hostile criticism and rivalry.

As federal support for curriculum development has grown in the past few years, I have hoped that the "process" people and the "content" people would get together and strike a profitable and fruitful balance. If they do, I am sure that we can accomplish in eight years what is now done in twelve, without any pressure on the children.

The Social Science Education Consortium looks like the best effort I have seen so far to bring the content and process people together. It is in a strategic position to accomplish a task that has not yet been achieved in American education, that of bringing a balance and an integration that has not yet existed between content and process. In this Conference, most attention has gone to content. I would like to see other conferences which give the same close examination to the learning process, to the school as an institution, and to each of the other facets of the educational enterprise.

Morrissett: Professor Senn has raised several questions about criteria for making educational choices, and Professor Berlak has pointed to the need for clear statements of the rationales for various positions on curriculum reform. Professor Taba has discussed the need for closer relationships between the methods and concepts people, thus putting the Conference in a broader perspective. Are there additional comments?

Content and the Learner

Saylor: I disagree with Professor Taba's analysis. I think that the primary emphasis today in the new curriculum projects is on the learner. We have not decreased the emphasis on the learner, we have just put more emphasis on the content. We are using better judgment about what kind of content we ought to have for the learners we have. I think that Senesh and Fenton, as well as Project English, and the PSSC Physics course are giving much more consideration to the learner than the old content ever did.

Fenton: I am afraid that I disagree. I have traveled around and talked with people in different projects. At the start, many of them think that they are producing materials for all students of all grade levels. They are not thinking about the different abilities of students, or the social class from which they come, or their predispositions for individual work, or of the sort of career the child is going to have. They are saying that these students ought to know something about whatever content the curriculum developers have brought with them from a formal university setting. I am sure that they are concerned with learners, but the amount of time that is spent worrying about the differences among learners in most of the projects seems to be quite small as compared to the quantity of time devoted to putting particular content into the material.

Saylor: My comment was a comparative one, I mean as compared to the 1930's and the 1940's.

Payette: I heard a statement recently that highlighted my reaction to the comment. Someone mentioned that we are not only interested in giving the students the right to think in the classroom, but also in giving them the right to feel. In my observations of where the new project materials are being used, I have not seen evidence of much concern about the nature of the interaction between teachers and students and among students themselves. The emphasis seems to be more on the learning of ideas. There is not much emphasis on the learner's behavior, feelings, and values.

Saylor: How much was there in the old American History course?

McNee: Some of the history of the High School Geography Project is relevant to this discussion. The first step in our project was to have a number of college people sit down and try to define what the important ideas of geography are. We did not go immediately then to making finished materials. The next step was an experimental one. We selected ten classroom teachers and ten college professors. Each professor was teamed with a teacher, and the teacher was encouraged to experiment with the ideas of geography. The participating schools were picked from a variety of situations with respect to income level, geographic location, and so forth. We accumulated a large file of experimental results that came directly from the classroom. This procedure was very enlightening and creative; it showed that there were many ideas that could be introduced with success in ths sixth grade, which most people had previously assumed could be dealt with only at the Ph.D. level. Success in introducing advanced concepts into the elementary grades depended on having very clear ideas about what they were, and on finding ways of making the concepts exciting to the students.

From the start, our project has been very much concerned with what goes on in the classrooms, with working closely with teachers, and with the nature of the pupil.

Rueff: I have worked very closely with Professor Senesh and his program for over two years. We have been very much aware of the different types of children we have in our schools, of the fact that we have slow learners, gifted, socially deprived, urban and rural children and so forth. The problems posed by such varying circumstances are met by providing a great variety of resources in the materials so that the teacher, who has to make the final decisions, has the materials available to meet a wide range of needs.

Curriculum Projects and the Classroom Teacher

Miller: We have talked about the problem of bringing "content" and "process" people together, and of integrating all of the facets of the educational enterprise described by Professor Taba. In this discussion, I have had the feeling that the classroom teacher has been underestimated. The final integration of all the thinking about subject matter and objectives and learning processes and so on must take place in the classroom. It sounds as though the psychologists and social scientists and all the other experts here are going to get together to prepare materials to be sent to the schools. Then the teacher goes to her mailbox, finds the materials, and is informed about what she is going to do this year.

In our school system, we teachers are constantly involved in learning about learning processes, in looking at new curriculum developments, in assessing the needs of our own school, and in putting all these things together to improve the education of our children. I think more teachers should be involved in such processes. We should not have everybody throwing materials at us and saying, "This is what we have done for you; go teach it."

Searle: Professor Berlak was talking about the difficulties of determining objectives and priorities for our educational system. Even if the experts can agree on these matters, they may be overlooking the very important fact that they are not the people who make the decisions. They don't own the educational enterprise; they work for it.

Berlak: That is exactly why I have made such a strong plea for curriculum developers to clarify their assumptions and values and objectives, their whole rationale--so that teachers and those who make the curriculum decisions will have a better basis upon which to make their decisions.

Silverman: I have been thinking about the great benefits that many teachers would get from these discussions, and wondering how this kind of conference could be undertaken at the local level. I hope that in our county we can make some beginning on activities of this kind. I am sure we can use some guidelines from national projects, but we have to work out at the local level what we think our children ought to have.

Lerner: I see many kinds of school systems, and in most of them there are no opportunities to sit around and carry on the kind of inquiry discussion about curriculum theory and developments that we are having here. Many classroom teachers go home at 3 o'clock to their second job. Miss Miller and Miss Silverman are talking about school systems that want to work with and are able to work with, the ideas we are talking about here; but these are not typical school systems. What we need very much is a system in which bold and imaginative curriculum materials are produced by outstanding people and in which teachers are also involved in a dialogue about the methods and ideas of the materials. I know that it sounds like a contradiction in terms, to first prepare materials and then to somehow get teachers involved with them; but that is a problem that somehow must be solved. Some of the new materials do present challenges and alternatives in which teachers can become involved, and the presentation of clear rationales for curriculum materials, for which Professor Berlak has been pleading, can help to get teachers intellectually stimulated, and involved in selecting and using materials in a creative and flexible way.

Searle: I agree very much that it is important to get teachers involved in a stimulating intellectual process, if the new curriculum efforts are going to make creative changes. I think this is what Miss Miller and Miss Silverman meant when they said that somehow we have to find ways to give teachers the benefit of the great sums of money that have been spent on the new curriculum materials, while at the same time giving them the opportunity to make their own decisions and to meet the needs of their own classroom.

---

[1] Beard, C. A., The Nature of the Social Sciences in Relation to Objectives of Instruction (New York: C. Scribners' Sons, 1932).

[2] The Unique Function of Education in American Democracy (Washington, D.C.: National Education Association, Educational Policies Commission, 1937).

CHAPTER 10

ANTHROPOLOGY IN THE HIGH SCHOOLS: THE REPRESENTATION OF A DISCIPLINE

Robert Hanvey
Anthropology Curriculum Study Project

Let me begin by admitting to a progressive inability to speak in very general terms about the process of designing curriculum materials. I am too close to the confusing details. A few years ago I would have been much more willing to make pronouncements, predictions and recommendations. Now, I think that the best service I can provide will be to give you a glimpse of the inside details of one project operation as it attempts to represent with integrity one of the social sciences. I can see only a few patterns in these details; perhaps you will see others.

The process of representing, interpreting and translating a discipline is only partly an intellectual one. The intellectual component is intricately linked to other components--some political, some ecological, and some happenstance. Our project is probably an anomaly in this respect because I understand that some projects have elegantly comprehended the crucial ideas of a discipline and marched ahead with clear vision and sure foot to develop appropriate materials. While I admire and envy such people, at the same time I wonder if they can really be that fortunate. In our case, we haven't marched ahead with a perfectly clear sense of direction. Indeed, we have fallen flat on our faces a number of times!

For example, we developed a unit called "The Emergence of Civilization," for use in World History courses. The intent was to have the students do what archeologists have been trying to do: first, to compare six original instances when societies transited from hunting and gathering to urban forms. Second, to look for regularities in this process of culture change. The material didn't work. The data were not right; the schools didn't understand what we had in mind, and they became preoccupied with a lot of side issues. The teachers and students alike were enthusiastic about the unit, partly because it did represent improvement. But when we asked them their view of its central purpose, they just didn't know--from our point of view. So we revised that unit twice, and we are revising it a third time, rather drastically.

In this instance, we did not start with the selection of key concepts, or with a definite notion of the structure of the discipline. We started with opportunity; someone wanted to write materials on the topic. The schools were not demanding it, and it was not an imperative of the discipline.

In the case of other materials and units, the interest of a prospective author has sometimes preceded, sometimes followed project decisions. Primarily, we look for topics (not concepts) that seem to have some legitimate place in history programs. There is a practical reason for this. The biology and math people can replace old courses with new, but anthropology is not taught in high schools. We decided that we must insinuate materials into history programs. Call it subversion, if you will: federally financed subversion! But we think the topics are legitimate and, more importantly, contribute some general understanding of the functions and processes of culture.

Culture as a Concept

What about "culture" as a concept? It could be argued that this is, in fact, the structure of the discipline: 1) it is an idea that encourages the search for regularity, because it is concerned with a set of probabilities about human behavior; and 2) it is an all-embracing abstraction and thus encapsulates the work made of the anthropologist, who tends to be concerned with the whole society.

What did we do with this concept? First of all, we didn't do what the schools wanted. We developed a unit on human evolution, "An introduction to Human History." (In the second year, we got braver and called it, "The Study of Early Man.")

We try to teach in this unit something about the function of culture. This is not really what the schools expect. They want ethnography, descriptions of primitive peoples. We wanted to stress culture as the distinctively human form of adaptation, the crucial factor in human evolution. So this was one aspect of our treatment of "culture." There are others.

Area Studies

We have three area studies, on Latin America, the Middle East, and Africa, each representing a different consideration of culture. In Latin America, for example, we study Iberian culture transplanted into a new setting, noting, for example, the very pervasive, patron-client relationship in economics, religion, and political affairs.

In the Middle East, we consider the idea of a mosiac of cultures, from tribal to national, and the problem of a traditional culture moving toward modernization.

In the African material, the emphasis is on the organization of a tribal society and on the impact of nationhood on such a culture. Here we use the case history of one group--the Nupe of Nigeria.

Problems in Defining and Teaching Culture Concepts

What are the results of such indirect approaches to the culture concept? What do students learn? First of all, they do not learn neat definitions. None of these materials contains an exact definition of culture. What the students seem to acquire is the ability to make operational definitions. But I must admit that they are extraordinarily awkward definitions. We don't yet know how properly to evaluate this--whether it is useful to achieve awkward but operational rather than clear but rote definitions.

One of our units does explicitly attempt to teach two key ideas, which are concepts that serve as tools. One is that of pattern and the other is that of function. Students consider a particular primitive group, the Kwakiutl, learning how pattern and function are applied to the analysis of this society. Residence, social stratification and values are studied in the light of the concepts of pattern and function. Then, the same ideas are applied to an historical society, classical Greece. We hope that the students, having learned to use these concepts in the analysis of a primitive group and a classical society, can then make meaningful applications to any society.

One of our problems is there are three different views of what anthropology is about: the views of the teachers, the views of professional anthropologists, and the views of the curriculum projects. Our large volume of correspondence indicates that almost all teachers are looking for something rather idealistic. They hope that anthropology will help students to "understand" and "accept" other cultures. When we talk to anthropologists about this major interest of teachers, they are not much interested. Understanding and accepting in the sense of respecting other cultures is so built-in that they cannot imagine wasting time talking about it. They want to understand culture in theoretical terms, and that is quite a different thing from what the teachers want.

In the project, we have not accepted the teachers' objective as our main task, but we have not always accepted the scholars' outlook either. We have, for example, been taken to task by some anthropologists who say we have not properly demonstrated that anthropology is a generalizing science; but when we ask them to suggest some generalizations, little is offered that is useful. Nevertheless, we are making a little progress in finding generalizations that we think are useful in the curriculum.

The Anthropology Profession and the Schools

In many respects, we have to adjust to the ecology of the profession. We have to adjust to the ideas and resources that are available, and we can ourselves have only a limited impact on them. As far as possible, we have thoroughly exploited the resources of the profession. We have used the tools that are available, and the scholars that are available. It is difficult, however, to find enough top-notch scholars to work with us. There are only about one thousand American anthropologists; many of them are not available; they are busy, or out of the country, or not particularly interested in curriculum work.

Our project must face in two directions. It must try to represent the discipline of anthropology with integrity; it must also try to represent, in a very different sense, the schools. It must be sensitive to what the schools require and to what kinds of materials they can use.

In our position between the schools and the professional anthropologists, we can sometimes play a useful intermediary role, meeting the needs of schools on a selective basis. In one instance, we responded to the request of teachers that we try to make anthropology more directly relevant to current issues. We were in touch with two anthropologists who are particularly interested in peasant societies. We found their work could be applied to the problems of today's developing nations and we are working to introduce certain of their ideas into our unit, "The Great Transformation," and into the three area studies.

Summary

We have learned much from our experience. We have learned that, between purely random behavior and thoroughly planned and controlled behavior, there are levels where vague notions, hunches, "ecology" and accidents guide one's behavior. The products of early experience are most humble, and often erroneous and expensive. But the mistakes are a part of the "discovery process" for project people. Naivete is gradually replaced by some measure of sophistication. Slowly a clear sense of direction, purposes, and the capacity to achieve them, emerge.

CHAPTER 11

POLITICAL SCIENCE AS A STRUCTURE FOR A SOCIAL SCIENCE CURRICULUM

Nona Plessner and Joseph Featherstone
Educational Services Incorporated

Aims of the Curriculum

We want to show you part of the social studies curriculum E.S.I. is preparing for junior high school. Although we plan three courses, roughly approximating 7th, 8th and 9th grades, today we only want to talk about portions of an 8th grade course. The purpose of today's presentation is quite narrow and specific: we want to give you as concrete an idea as possible of how this material works in classrooms. We feel that rationalizations and concepts are important, but we also feel that any discussion of them should not be divorced from actual classroom material. We hope that this demonstration will push this conference towards considering all curriculum ideas in their classroom context: as seenarios for enactments between the child and the material.

The aim of our junior high school course is to understand the development in America of a distinctive political culture. When we say political culture we mean politics in the broadest possible sense, a seamless web which includes religion, economics, and social and intellectual change, and which must be studied through a wide variety of disciplines.

The units of the course are thematic, and each is a variation of the theme of the emerging political culture. While the themes are determined, the child's general interpretations of their meanings are not. It is important to stress that, beyond a point of factual and thematic comprehension, this material is open-ended. In a sense, the evolution of a political culture is the evolution of a national character. Each child, as he elicits history from the materials of this course, will have to develop his own assessment of the American character. He will have to do this in a disciplined way: he will have to square his interpretation with the rules of induction, logic, historical evidence, and common sense. Fortunately, it is quite impossible to separate the child's concern with the political culture of this course from his own concerns as an American today.

The curriculum materials and exercises are selected with the purpose of getting the children involved in, and excited about, the process of making generalizations from the interesting data of political history. The emphasis is more on developing the students' intellectual abilities than on retention and recall. The materials are presented in ways which give children opportunities to discover regularities and uniformities in the social world around them, and to recognize causality. The development of these skills should enable them to categorize other social phenomena, in other places, at other times.

So far the E.S.I. curriculum is a "roughly coherent but highly flexible framework within which we can construct model materials."[1] The use of the two major concepts, power and political culture, has been defended on the ground that adolescence is a critical period in the stabilization of an American child's political development. Evidence also suggests that school is the most important formal agency of political socialization.[2]

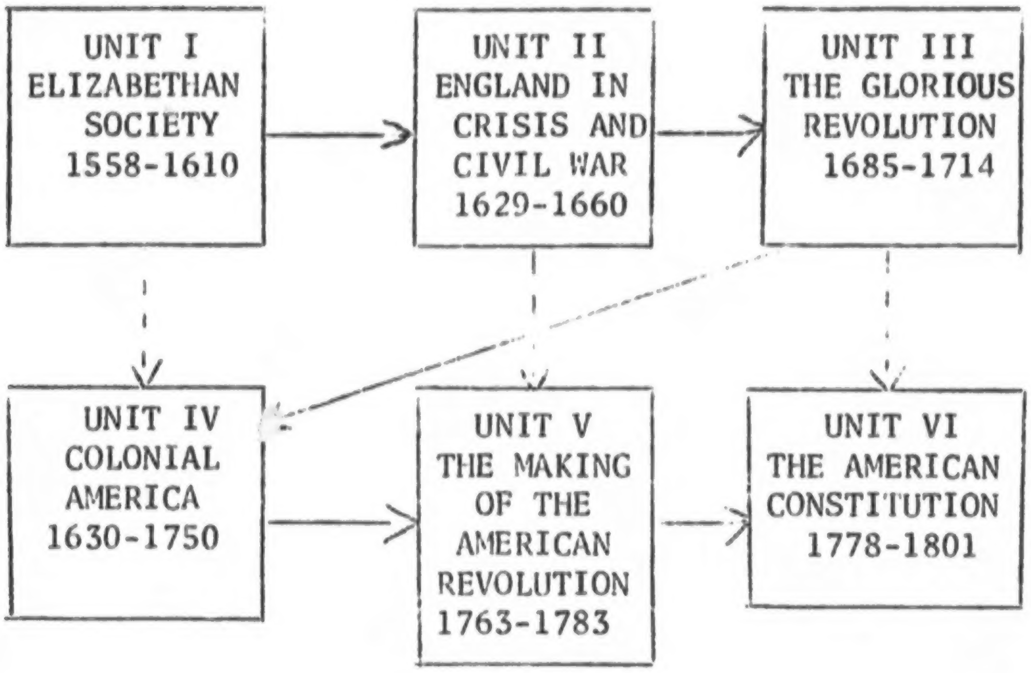
A Clearer Look at Course Two--From Subject to Citizen

The pivotal course in the three year sequence has as its theme, From Subject to Citizen, and is intended for use in the eighth grade or thereabouts. The course draws its material from seventeenth and eighteenth century British and American experience. Its limits in historical time are the reign of Elizabeth I on one hand and the accession of Jefferson to the American presidency on the other--roughly from 1588 to 1801. It is not a narrative account of what happened; rather, it is a series of six studies in depth, or units, dealing with major developments and critical episodes in the emergence of a changed political culture in the two centuries.

The organization of units in From Subject to Citizen is reflected in the following diagram. Units, if taught in full, may vary from six to eight weeks in length.

We eschew the fetish of coverage and the obsession with humbles of isolated facts. Our units present studies in depth. The material is as authentic as possible and is presented in a thematic way, to provide room for "guided discovery." The course is focused on people; we feel that this is probably a much better way of learning citizenship than learning generalizations by rote

UNIT SEQUENCE IN FROM SUBJECT TO CITIZEN


UNIT I
ELIZABETHAN SOCIETY
1558-1610
UNIT II
ENGLAND IN CRISIS AND CIVIL WAR
1629-1660
UNIT III
THE GLORIOUS REVOLUTION
1685-1714
UNIT IV
COLONIAL AMERICA
1630-1750
UNIT V
THE MAKING OF THE AMERICAN REVOLUTION
1763-1783
UNIT VI
THE AMERICAN CONSTITUTION
1778-1801

from a teacher. Generalizations and the ability to generalize figure importantly in this course, but they are not an end in themselves. The actual generalizations are not as important to us as the process of generalizing the child learns to apply within the framework of our themes. In this sense, the goals of this course might be stated behaviorally. That we have not done so is in part because we are reluctant to separate goals from the actual classroom curriculum material; and because we feel our themes are, on their own merits, vital for American children today.

The Colonial Unit--"The Emergence of the American"

We have chosen to work from Unit IV, the Colonial Unit or "The Emergence of the American," which is the most advanced in preparation and testing. A provisional version of this unit, probably best used in the 8th grade, has been published, and we both have had experience in teaching it. During the summer of 1965, we trained teachers to use the course, and it is now being tried in selected states.

One word about the materials of this unit. They are printed in pamphlets, to give the teacher more flexibility in presenting them. Each pamphlet contains copies of maps, documents, charts and photographs, together with outlines of discussions and student guides. It is intended that they be dispensable student-owned materials.

The Colonial Unit takes its theme from a question asked by a French observer of the colonial American scene, Hector St. John de Crevecoeur. He asked, "What, then, is the American, this new man?", and suggested how he thought the American differed from his European counterpart. His question provides the thematic structure of the Colonial Unit. It is not raised immediately with the children who study this material. Rather it is used as a way to organize some notions of the American national character after students have encountered evidence of how Europeans might be changed by their contact with the New World.

Geography and the American

In the Colonial Unit, the first piece of evidence the child is given is a 1719 map with parts of the world incomplete. The mapmaker indicates that the continent we now know as America might be the ancient island of Atlantis. To some Englishmen, this might have spelled Utopia. An English playwrite contrasted England and America thus: "I can tell thee for as much red copper and I can bring up, I have thrice the weight in gold. . . All the chains with which they chain up their streets are massy gold and all the prisoners they take are fettered in gold, and for rubies and diamonds, they go forth on holidays to gether them by the seashore to hang on their children's coats and stick in their caps." To balance this view, the children have materials from Richard Hakluyt, John White and the Virginia company. Hakluyt, for instance, wanted Queen Elizabeth to establish American colonies to open a new woolen market. John White, with his Planters Plea, persuaded thousands to emigrate, for the enlargement of Christ's kingdom, while the Virginia Company called for blacksmiths, carpenters and practical people who could really make the enterprise work. The children sift these materials to find their own answers to questions such as "Why did people come to the new world?" "Why might people have wanted to leave England?" "What motivated Englishmen to establish colonies here?"

We then ask the question, "If you were going to establish a colony in America, what other information would you like to have?" The general response to this is, "information from someone who has been there." To supply this requirement, there are copies of John Smith's description of Virginia from his History of the World and his description (with Fraces Higginson) of New England. This is where geography comes into its own, for these descriptions show vividly the interest and usefulness of geography. The children must identify the pictures and decide which is of Virginia and which of New England. They also draw a map of Virginia based on John Smith's description.

Next, they are asked to consider, "Where would be the best place on the Atlantic seaboard to place a colony?" "How will Englishmen respond to the climate?" "What use will they make of resources?" "How can a colony be organized?" "How will the land be divided?" Finally, they use the material they have been evaluating to plan their own colony, showing how the land is going to be used and indicating lines of communication.

Community Studies and American Character

Part II of the Colonial Unit is a case study of the settlement of a New England town, Sudbury. It suggests a definition of the American character, by contrast with the ways of the Old World. It fits into the theme of "From Subject to Citizen" in a specific way because the settlers of the town tried to reproduce an English Medieval village, and their failure suggests the outlines of the emerging American character. Discovering why the attempt was unsuccessful also gives the children more insight into problems of social class, class conflict and cultural change.

First, it is necessary to show the main features of the Medieval economy, and its related social structure. This is done with maps, charts, documents, and occasionally some natration. Then, the Sudbury story continues by tracing in detail the life of Peter Noyes. Records of the time are used to follow his journey from Wayhill in England to Watertown, Massachusetts, until he finally settled in Sudbury. Noyes was one of the petitioners entrusted by the Massachusetts General Court to distribute the land grant to Sudbury. This was attempted on the open field system and an interesting ranking of the settlers occurred. The children discuss the basis of the ranking and try to find reasons why, for instance, the miller should rank third when the land was shared, and the minister first.

An interesting anecdote provided the basis for further sociological discussion. It tells how a master who had been forced to sell his cattle to pay his servant considers dismissing him. The servant is impertinent enough to suggest that he give him his cattle in payment. The master then poses the question of what will happen when all the cattle are gone, to which the servant swiftly replies, "You then shall serve me, so that you can have your cattle back again."

Similar problems surround a discussion of George Washington. An attempt is made to break down the myths that surround him, first by viewing Washington as a planter in the South. His problems as a planter, and many of the cultural differences of the South, are brought out. The children are presented with the anomaly of his attitude toward slavery. He wanted his own slaves to be treated well, and yet wrote to friends in Philadelphia saying he didn't think runaway slaves should be able to find sanctuary with the Quakers. The children learn that Washington planned to free his slaves at his death, and someone is certain to raise the question, "Why not before?"

A similar complexity in social organization is illustrated by the autobiography of Gustavus Vassa, a Negro whose life began in a slave-owning family in Africa. After being brought to America as a slave, he managed to escape to England, and wrote on the abolition of slavery, all the while accepting complacently that his father owned slaves in Africa. Here are some real enigmas for the children to fathom.

Economics and the New Man

As another example of how the E.S.I. curriculum ties in with other social science disciplines, we will take a brief look at the game "Empire." The game is set in the late 1730's. The school class is divided into six different teams--the New England merchants, the Colonial farmers, the Southern Planters, the Virginia Planters, the London Merchants and the European Merchants. A large map is the gameboard and each team has ships and boxes of cargo representative of its geographical area. The goal of the game is to increase wealth while keeping within the trading rules of the Empire. The economic problems involved are many, for no manufactured goods can come from European merchants and the colonies cannot sell to Europe except through London. There are other contingencies, too, such as interference by customs officials, pirates, and storms at sea, to further complicate the trading. But there may also be good sailing. The purpose of the game is to help the children learn about the mercantilist theory followed by the English at this time, and understand what it meant to American colonists.

Politics and the New Man

The concluding piece of this unit, "Why did the Colonial Assemblies come to clash with Royal Governors?" focuses on how the American is emerging as a political animal different from his English forebears. When students see the attitude which Americans take toward Royal governors they must try to square these actions with "Why?" What gives the American such strong feelings that government should be used for his and by him? Here students can go back to the pattern seen in Sudbury and in the Virginia settlements--the pattern of Americans setting up towns, deciding how land was to be used, and how much each settler was to receive--and consider whether it was contempt for governmental authority or familiarity bred by long participation in their own affairs that led Americans to clash with royal authority.

Conclusion

As yet, the full E.S.I. curriculum for social studies has hardly passed the embryo stage, though many units are nearing completion. Experiments are being tried to find materials and methods which best suit our purposes. We hope that education will be encouraged by this attempt to raise the level of political socialization in America, while improving the standard of history teaching in the schools.

---

[1] Franklin K. Patterson, Man and Politics, Occasional Paper No. 4 in The Social Studies Curriculum Program (Cambridge, Mass.: Educational Services Incorporated, 1965), p. 58. This booklet gives the background, rationale and description of the program on which Miss Plessner and Mr. Featherstone based their presentation at the conference.

[2] Ibid., pp. 16-17.

CHAPTER 12

ROUND TABLE: INQUIRY AND EVALUATION

Senesh: I think the E.S.I. Project is truly very exciting, for two reasons. First, I find an answer to a very important problem history teachers are facing in the elementary and secondary schools, and even in college. This is, how do you develop a certain historical sense? How do you get a three-dimensional picture of a period? At present, children learn historical data for a test and then forget it. Historical dimensions just don't exist, not only in the elementary schools, but in the colleges; except, occasionally, through historical novels. I think the rationale, wanting to make the child experience the way a historian works, is not important. What is important and exciting is that the period studied suddenly becomes more than dry data and events. I wish we could have testing and evaluation methods that would measure occurrences like that.

Second, it is one of the finest examples I have seen in which history is used as a container for the other social science disciplines. The curriculum gives a very good place to economics and political science and sociology; those disciplines add much to the historical presentation. (I do not want to make the historians mad by suggesting that history is nothing but a summation of the individual social sciences. There is more to history than that, I am convinced, though I don't know what that something more is.)

Inquiry

Marker: I got the impression that you people at E.S.I. have in mind clear answers to many questions that students ask, such as, "Why was the minister in Sudbury ranked first?" I have just visited the Anthropology Curriculum Study Project, where I have been impressed by the fact that they don't have any answers at all. The professionals are not even sure what the ancient stone tools were used for. I get the impression that you might be fishing for answers--preconceived answers--with some of these materials, and in that sense, your curriculum is very closed rather than open.

Featherstone: I think not. In some specific matters, such as, Who ranked first? We certainly do know the answers; there is only one answer. But the significance of why this ranking system was established is something that I think children can answer in many different ways. To give you an example, the whole Sudbury story could be viewed, and some children have viewed it, as a triumph of individuals over a kind of medieval, corporate way of life. Individuals broke forth to own their own land, and to defy their "betters" for the first time. Other children have pointed out--another valid interpretation of the same facts--that it is in a way very sad, because the individualistic order that emerges doesn't have the same community feeling; it doesn't have the same respect for religion; it doesn't have a lot of other things. The children's interpretations of the emerging American character, which is what this unit is about, can be exceedingly different. The question of which of these character sketches really strikes you as being most American is the kind of thing we ask them to answer. This is, to say the least, subject to interpretation.

Lerner: I am concerned with the nature and the rationale of building inquiry processes. The idea of process is presented as being vital to the teaching of history; for example, getting the children to act like historians. I am not sure, now that the rationale has been spelled out, to what extent that is a good way of teaching history, or whether it is more desirable than knowing the history. The extent to which children are really supposed to make their own discoveries is often neglected in the discussion of rationale.

Now the E.S.I. data are screened in advance; all the diaries are relevant; all the documents are pertinent. At last year's sociology convention, it was seriously debated: Should we give children a lot of data and let them figure out which are relevant or should we pre-sort relevant data, and let them do what they can with what is pertinent? This is the kind of argument I would like to see more of, to get to the basic rationale. What is it you want the children to do and why?

Plessner: I feel, and this is a personal opinion, that anytime you give a child anything you have pre-screened it. You have certain reasons for using this textbook or that piece of material. I think if it is the process that you are after, then you can prestructure material, make a judgment about it and say it is worthwhile for the children to look at it this way. We don't know the answer to all these questions. I don't know whether it is better to give other data or to give it in a different way. All I am saying is that any time you give a child anything, you have prejudged it.

Testing

Senn: What difference in test results have you got between this presentation and the conventional type?

Plessner: That is another one of our unanswered questions. We are trying to develop tests to determine just exactly what happens in the children's minds. We have gone to E.T.S. (Educational Testing Service) for their advice, and worked with them to develop testing instruments. We feel a little bit unhappy, and I think E.T.S. does too, with the kind of test that they have evolved. At the same time, we are talking to other people devising different measuring instruments based on classroom observations. It is certainly incumbent upon us to develop measurements.

Featherstone: One of the things we are doing illustrates how we think previous and present testing is inadequate. We are thinking of doing a test unit which lasts a week. It would be a study of immigrants, say 19th and 20th century immigrants to this country, and would consist of variations on themes developed in the course. That is, the children would have to transfer to the 19th and 20th centuries their theories about the differences between Europeans and Americans in the 18th century. We could do this in a community study, lasting a week. The test itself would be a way of educating as well as evaluating.

Sigei: I don't understand E.T.S. and I don't understand those here who say that they don't know how to evaluate their curricula. We teach the children processes of induction, hypothesis testing and theorizing, and somehow we expect them to do what we ourselves are unable to do with what we give them. Since we are, by our own admission, so inept at evaluating, and since we are teaching children how to assess evidence, establish methodologies, and so forth, I propose that we hire these children who have been through our courses as evaluators for the courses.

Rationale

Fenton: I am curious about your rationale. It begins with a statement that American history courses found in the eighth grade are poor. I certainly agree with you, and we want to teach better ones. You propose to do this by using the idea of "Subject to Citizen" to bring about better political socilization. But the well-known studies of Hess and Easton[1] argue that political socialization of the child is well on its way to being finished by the eighth grade, so that if you do want to get at political socialization, you'd better do it pretty early in the elementary school. You also made the assumption that if you want to work with political socialization the best way to do it is by studying content in the 17th and 18th centuries. I don't know what evidence anyone could give that this is the best way. The evidence I have run across seems to indicate that it is quite a poor way, and I feel E.S.I. is left with a rationale that just doesn't hold together. Finally, you propose to test political socialization by a week's project on immigrants in the 19th century. It seems to me that E.S.I. simply must sit down and develop a clear and concise rationale for what it is doing. I hasten to add that Carnegie Tech had better do this too.

Taba: I want to comment on the methodology of getting at curriculum innovation. Yesterday, we had methodologies that started with schemes of concepts and generalizations, worked out with packages of materials rather than pieces of materials. Today we have had two presentations that are a kind of English method: mess it through and look again, and mess it through and look again. Both have merits. I suggest that at future meetings, we raise the question of what is the proper place of the inductive approach as compared with a structured approach. Where can the two eventually meet? I am not assuming any of us has an ideal scheme. We ought to examine thoroughly both approaches, and users of both approaches ought to figure out very carefully an appropriate way of evaluating their particular methods.

---

[1] Robert Hess and David Easton, "Role of the Elementary School in Political Socialization," School Review, Autumn, 1962, pp. 257-265.

CHAPTER 13

VALUES AND THE SOCIAL STUDIES

James Shaver
Utah State University

I am convinced that much of our difficulty in discussions about the social studies curriculum is attributable to ambiguities in our use of language. Apparent disagreement seems real, and we fail to come to grips with the issues because we have different referents for the same words or use different words to refer to the same thing.

Social Science and Social Studies

I would like to define *social studies*, distinguishing the social studies from the *social sciences*; it is an important distinction. The *social sciences* are the scholarly areas concerned with the study of man in his social environment. Social studies is that aspect of the curriculum which is ordinarily based on the social sciences and history as a source of content, and intended as *general education*.

Social science teaching means the communication of the findings of the scholarly study, and of its philosophy and methods of investigation. For social studies teaching, there is an intervening phase of determining a rationale for general education, an intervening phase which social science instruction does not face. Note that you might teach social science *or* social studies in secondary or elementary school. The social science course (I include history here, in agreement with Professor Feigl's definition) is taught, or should be taught, with regard for the structures of the discipline; social studies courses should be taught with regard for the demands of general education. Frequently, general education in social studies has been taken to mean citizenship education. In terms of the practical results of selecting content and teaching procedures, we may come up with similar results, whether our concern is social science or social studies instruction. But I want to make clear that my concern here is with values in the *social studies* curriculum.

Evaluations and Value Judgments

I also want to make a distinction between making evaluations or evaluating and making value judgments. Evaluating, or making evaluations, means determining whether certain criteria are met. It is basically an empirical process. It includes, for example, the scientist's comparison of data against the standards of investigation; or, at a higher conceptual level, deciding whether a hypothesis is to be accepted or rejected at a given level of probability. The second, that is, making value judgments, is a matter of deciding what the criteria should be; that is, of deciding what is right, or what is important.

Some people, for example those in the pragmatic school of thought, act as if all value questions were of the first sort, that is, of the evaluating type, involving only testing against criteria. To these people, the value problem is one of testing the consequences of an act or policy to decide whether it is right or not. There remains, however, the problem of deciding what criteria the act or policy will be tested against. I maintain, as Professor Figel also pointed out, that there is no empirical procedure for such decisions unless a value or values are assumed.

The Harvard Curriculum Project

Much of what I am going to talk about has arisen out of my association with Donald W. Oliver at Harvard.[1] In the Harvard Curriculum work, we have viewed the critical task of general education in the social studies as citizenship education. And, relying upon assumptions and notions about democracy--whether in the "pure" form of the town meeting government that was so frustrating to me when I lived in New England, or in the form of a republic--we have been concerned that the general education curriculum prepare the student to make reflective, rational, "critical" decisions about public issues.

What is involved in making reflective, rational decisions about public issues? We identified, in an arbitrary division of reality, three basic types of problems to be faced in a discussion in which a decision about a public issue is to be made. Each calls, we think, for a somewhat different intellectual strategy, although all are interrelated.

One of the problems is clarifying communication. In the past, propaganda analysis has been one aspect of this, but the approach has been much too limited. Teaching students to clarify communication should involve not only alerting them to recognize breakdowns in communication, but also use of the findings of semantics and linguistics--for example, on the way that symbols shape our thoughts, on symbol-referent relationships, on changes in symbol meanings that take place over time as well as from one place to another in space, and on the value loadings of language and their effects on behavior.

The most appropriate strategy for handling the communication problem when it involves disagreement over the meaning of a word is simply to find some way of agreeing how the word is being or should be used. Too often in public schools we have taught or implied that the solution to this particular problem is to find out what the real meaning of the word is. Of course, there is no real meaning to a word. The basis of language is consensus as to how a symbol relates to a concept about reality. We can call an object a table or we could refer to it just as well as a chair.

A second type of problem, which involves a different kind of strategy for solution, is determining matters of fact. Making evaluations falls in this category. In education, the emphasis in teaching students to handle factual as well as other types of problems has been on Dewey's five steps of "scientific" problem analysis. Certainly scientific methods are relevant for solving factual problems. It is interesting, however, that even with stated commitments to teaching thought processes, most of the social science projects have tended to focus on substantive concepts. Despite its absence from the usual history course, historiography is especially applicable to citizenship education because, in making decisions involving public issues, we usually have to deal with reports, very rarely having an opportunity to be a first-hand observer. For instance, we contemplate the Viet Nam situation using information that filters through to us from the government via the news media.

I include avoiding logical errors as a subcategory of the factual problem. Logic in dealing with public issues usually has to do with the way in which we construe factual realities, that is, what we think is out there around us. Here the methods of the historian and the scientist, especially as formalized by philosophers, are particularly relevant.

The third general type of problem, and the one of central importance to our discussions, is making value judgments. Gunnar Myrdal, the Swedish economist and sociologist, noted how important this problem-type is in our society, as evidenced by the title of his classic work on the position of the Negro in the American community, An American Dilemma.[2]

A main point of Myrdal's was that our general values tend to conflict with our specific values. For example, a man may be committed to the idea of the dignity of man, but in a specific situation act to deny this general commitment by not allowing Negroes to eat with whites. A person might believe that all men have an equal right to earn a living, but deny Negroes or Jews or non-Mormons or members of some other group the opportunity to work in his business.

As well as conflict between general and specific values, there is also conflict between and among our general values, and this is the more important kind in the political-ethical discourse of citizenship education. A classic conflict that is probably overworked is that between freedom and security. You expand people's freedom and the security of some is threatened; you expand on security and you restrict freedom. Other examples of conflict between general values come readily from the current civil rights dispute. You could defend recent civil rights legislation in terms of equal opportunity for Negroes. On the other hand, and I think we have failed to appreciate this, Southerners and others opposed to the legislation have not used Fascist values to support their position; they use values generally accepted in our society, such as property rights, the right to local control, and freedom of association. These are good American values! And there is real disagreement over which should prevail in specific situations.

In many instances, then, we cannot agree upon the value to be used as the criterion for judging a policy. This is true if both sides claim that theirs is a final value and there is not agreement on a third, higher value, or if each disputant claims that his value is an essential ingredient of human dignity--which many people agree is the highest value of all in our society--and you cannot deny his value without denying human dignity.

Values, Empiricism, and the Social Sciences

What is the role of social science in these value disputes? If you are willing to accept my position that value conflict is a legitimate and important problem area in making decisions about public issues, and that teaching students to deal with value conflicts should be an important aspect of the general education program, then it is necessary to ask whether a curriculum based on the social sciences can be sufficient for general education.

Certainly the social sciences can identify the values held by the society or by subgroups in the society. They may even help to explain why we hold our values. But what role can the social sciences play in resolving confrontations between values? Charles Beard, writing in response to this question, made a classic statement in his book, The Nature of the Social Sciences:

> Now we come to the second question raised by tensions and changes in society: What choices should be made in contingencies? Here the social sciences, working as descriptive sciences with existing and becoming reality, face, unequivocally, ideas of value and choice--argumentative systems of social philosophy based upon conceptions of desirable changes in the social order. At this occurrence empiricism breaks down absolutely. It is impossible to discover by the fact-finding operation whether this or that change is desirable. Empiricism may disclose within limits, whether a proposed change is possible, or to what extent it is possible, and the realities that condition its eventuation, but, given the possibility or a degree of possibility, empiricism has no way of evaluating a value without positing value or setting up a frame of value.[3]

In other words, ultimately, you must have a criterion by which to judge policy, and there is no way empirically to establish this.

Professor Feigl, if I interpreted him correctly, is in agreement with Beard. Charles Stevens, John Hospers, E. C. Ewing, Bertrand Russell[4] are others who have agreed with this basic conception of the limited role of science in the ethical decision-making process, even though they do not necessarily agree on the best way to make ethical judgments.

To reiterate, social science can contribute to the clarification of value conflicts by describing what the society's values are. Scientific method also is helpful in resolving value disagreements that rest on factual assumptions. For example, proving that his assumptions are false may lead a person to modify or abandon a value position. A person may also abandon a value, that is, make a different value judgment, if it can be proved that a policy based on that value will lead to consequences that are objectionable in terms of a second value. Also, when a third higher value is agreed upon by the protagonists, then the methods of the scientist (which can not posit the third value) can be used to predict whether a policy decision based on one value or the other will better enhance this superordinate value. But if there is a fundamental political-ethical conflict, that is if the disputants cannot agree on which is the most important value, scientific method cannot resolve the disagreement.

The student should be helped to clarify his values, to be sure that he understands what his values are and how they are relevant to public policies, and to develop some strategies for weighing those values in making decisions about which public policy he would like to pursue or have the government pursue. If there is any one area in curriculum where creative work is needed, this is it. There are people working on ethical analysis, but very little of their effort has actually been applied to what we might call political-ethical analysis, the ethical analysis involved in broad public issues.

Teaching Strategies for Values

Imaginative strategies that go beyond the empirical methods of science are needed. In the Harvard Project, we used hypothetical cases, and tried to train students to use them, to clarify value positions. For instance, the teacher might describe a freedom of speech case to his students:

> A man is up on a soap box giving a fiery harangue. A crowd begins to gather, and the police who are present are faced with a decision. It looks like there may be violence; what should they do? Should they disband the crowd or try to hold them back, or should they pull the fellow down from the soap box and haul him to jail?

This is a familiar American dilemma, and students come up with different solutions based on differing, and usually unexamined, commitments. Hypothetical cases can be used to clarify these positions. Similar situations can be constructed along a contiuum, at one end of which freedom of speech seems to be extremely important relative to property damage, and at the other end of which property rights are dominant. Considering such a spectrum of hypothetical cases, the range of analogies and the differing decisions that might be made, can help a student determine what decision he wants to support in a specific situation.

In our teaching, we often presented cases from points along the continuum, as counter-cases to the student's position. Hypothetical cases afford a way of getting students to see that the values do conflict, and how they conflict,

POOR ORIGINAL QUALITY - BEST COPY AVAILABLE

and of helping them determine at which point the nature of the situation has changed sufficiently so that they are willing to shift from supporting one value to supporting one or more others being violated. This emphasis upon important conflicting values sometimes caused students to shift positions. Note that this is a personal decision. The teacher obviously cannot tell the student where he should shift. To the teacher, freedom of speech may be the most important thing in the world, and he would rather have people killed than have it taken away. To the student, human life may be much more important, so that he would give away freedom of speech to insure that human life was not taken.

Our use of cases has been based to some extent on what is known about what people do when they become aware of inconsistencies. Myrdal points out in the Appendix to An American Dilemma, and Festinger's theory of cognitive dissonance[5] is based on, our tendency to forget, to repress, to push out of our consciousness our inconsistencies. Cases and counter-cases help to force the student to deal with the full array of values and the conflicts among them. But that is enough time on teaching strategy, as that is not the purpose of this conference.

Using the Structure of Disciplines

What I have said to this point should provide some thoughts about the place of values in the social studies curriculum and the resultant role of social science concepts in that curriculum. To recapitulate, I have tried to deal with the topic by looking at the social studies as general education and, specifically, at the citizenship function of general education. Obviously, there are other possible functions of citizenship education and I am not suggesting this as the only one. But in making decisions about public issues we get involved both in evaluating--that is, matching things up against criteria--and in making value judgments, that is, deciding what the criteria should be. The latter choices are central to public controversy, and to helping students develop reflective strategies for making political-ethical decisions. Given this central position of value judgments, empiricism's lack social studies curriculum.

Courses in the social sciences based on an analysis of structure in the various fields of study which we call disciplines may well be an appropriate part of the social studies curriculum, of course. The social sciences do have much to contribute in terms of the intellectual methods and the data for describing public issues and the context within which decisions about them must be made. Formally, logically, the idea of presenting concepts in the context of the structure of a discipline is powerful, especially to social scientists who have commitments to the work to which they have dedicated a very large portion of their lives.

The major structural questions often asked of a social science discipline may also be appropriate in shaping a "structure" of citizenship education. But the answers are going to be different. For example, Schwab[6] deals with three major kinds of questions in defining structure: What is the subject field of the discipline? What are the substantive concepts? What are the syntactical or methodological concepts? We can ask the same sort of questions about citizenship education. In the rationale which I have been discussing, the subject or field is thinking reflectively about policy decisions in our society. The substantive concepts are those which are useful in describing and understanding the issues in the context in which decisions about them must be made. Here the social sciences have obvious application. The syntactical or methodological concepts are those useful in arriving at rationally justified concepts. Here the social sciences are relevant, but other sources of concepts are not only relevant; they are critical.

But what of the motivational power of presenting social science concepts as part of a structure of the discipline? Let us leave aside for now the question of the reality of the structure of a discipline, the outcome of man's arbitrary efforts to define and study a field, and his analysis of the results of that study. It is one thing to have faith that there is order in nature, including society as the natural setting in which man operates; it is another thing to presume that the dividing of reality into segments for study, the basis of a discipline, necessarily reflects that natural order. Leaving that aside, there is still an open empirical question as to whether the concepts of the social sciences can be taught most effectively as part of a total course based on structure, whether they are best taught in thin relationship to understanding societal problems, or whether a combination of the two methods is most effective.

It does seem possible that the scientist's belief about the motivational effects of studying concepts in a context of structure are too much a reflection of his own excitement at creating structure. We do know that students tend to learn better that which can be related to and used in their own framework for viewing and construing reality. As Professor Sigel has pointed out, we too often ignore the fact that students come to the classroom with their own conceptual and affective frameworks. Teaching is not a matter of simply painting something on a tabula rasa; it is a matter of interaction between what we want the students to learn and what they have brought to the classroom. We cannot, for example, impose strategies of thought that seem best for handling the three major types of problems involved in political-ethical discourse. The task is to help the student to develop intellectual strategies of maximal appropriateness, recognizing that the student's frame of reference will have an impact and that the strategies will undergo change as he attempts to use them in his own life.

Inculcation of Values

What of the affective, as opposed to the intellectual, side of values in the social studies curriculum? I am not suggesting that we should inculcate values; I am not suggesting that we should not, either. Although some value judgments are at least implicit in what I have been saying--for example, the commitment to a rational, reflective mode of persuasion--the instructional intent is to help students develop concepts useful in identifying and clarifying their values and implications of their values. At the same time, my position assumes commitment to the basic societal norms that structure our debates on policy. These norms are acquired largely outside of the school, although the elementary school and to some extent the secondary school can play an important role in sharpening and reinforcing commitments to norms. As social studies curriculum people, we should not blush to impress on students the importance of these societal values, perhaps stressing human dignity as the basic commitment--with other central values, such as freedom of speech, defining the characteristics of dignity.

In emphasizing the importance of particular values, we must help the student keep in mind the inevitability of conflict between the values. We may, for example, stress a representative majority-type of decision-making process as a value derived as a natural extension of a commitment to the basically rational nature of man. To this value we should juxtapose another value that is extremely important in our society, expressed by such people as Thoreau and currently under fire across the nation: the right to individual belief and to dissent.

Conclusion

There are a number of other matters that could be discussed, related to the approach to values I have described: materials and teaching strategies, intereactions of these materials and teaching strategies with students who have different personality characteristics, the grade level at which this approach might be introduced, the kind of sequence that might be followed, and the kinds of evaluation problems that one gets into with such a curricular approach. However, these items are outside the scope of this conference. I would simply like to close, then, by emphasizing again that values and, in particular, value judgments must be a central concern of the social studies and this must take us beyond the social sciences as a source of concepts for the curriculum.

---

[1] See, for example, Donald W. Oliver and James P. Shaver, Teaching Public Issues in the High School (Boston: Houghton Mifflin, 1966).

[2] New York: Harper & Row, 1944.

[3] Charles Beard, The Nature of the Social Sciences (New York: Scribner, 1934), pp. 171-172.

[4] Charles L. Stevenson, Ethics and Language (New Haven: Yale University Press, 1944), pp. 113-114; John Hospers, An Introduction to Philosophical Analysis (New York: Prentice-Hall, 1953), p. 494; E. C. Ewing, "Subjectivism and Naturalism in Ethics," in Readings in Ethical Theory, edited by W. E. Sellers and John Hospers (New York: Appleton-Century-Crofts, 1952), p. 120; Bertrand Russell, "The Elements of Ethics," in Sellers and Hospers, ibid., p. 8.

[5] Leon Festinger, A Theory of Cognitive Dissonance (New York: Harper & Row, 1957).

[6] Joseph J. Schwab, "The Concept of the Structure of a Discipline," Educational Record, July, 1962, pp. 197-205. Also, Joseph J. Schwab, "Structure of the Disciplines: Meanings and Significances," in The Structure of Knowledge and the Curriculum, edited by G. W. Ford and Lawrence Pugno (Chicago: Rand McNally, 1964), pp. 6-30.

CHAPTER 14

VALUES IN THE CURRICULUM

Michael Scriven

Introduction

I want to argue for two points, both of which seem to me vital to the whole question of dealing with values in the curriculum, and both of which are almost completely at odds with common views about this problem. The first point is that the vast majority of value disputes are capable of settlement by rational arguments. The common slogan that "one person's values are as good as another's" is usually false and is usually an indication of insufficient training in empirical investigation or logical analysis.

The second point is that the analysis and resolution of value disputes is one of the most difficult intellectual problems that we ever put in front of the child in the course of the entire curriculum. A tremendous job lies ahead of us in developing methods and materials to teach teachers and children how to deal with this complex matter.

The Place of Ultimate Values

In disputes about what is "right," what is "better," and what "ought" to be done, the discussion frequently ends with the disputants in disagreement about the issue, but in agreement that the argument cannot be carried further. A common conclusion is that You can't dispute basic values." Let us use the common term "ultimate values" to refer to these values that are unarguable, in the sense that no further facts or logic can be mustered to show whether they are sound or unsound.

It is possible that there is no such thing as an ultimate value. One of the best philosophers in the country once said that he had never, in the course of any debate on any moral issue, found a disputant who could not be shown, at every point, to be appealing to yet further considerations of fact or logic. The stopping-point of value-disputes, then, is very often a point of disagreement about a complex matter of fact, such as the actual effects of pornography on grade schoolers, and not a dispute about ultimate values at all.

The question of whether ultimate values exist is not very important, however, if it is true, as I believe, that the great majority of value disputes can be settled by empirical investigation and logical analysis. The educational task is to push back the frontiers of analysis as far as possible, not to worry about whether there is a last frontier. There is an interesting analogy in the physical sciences. The status of determinism need not be settled before we agree that the right approach is to seek for causes of all phenomena with all our effort.

Education About Values Versus Indoctrination in Values

It follows from what has been said that most training of children in the realm of value disputes should have the purpose of helping them to become more skillful in clarifying issues, in verifying facts on which they believe their value judgments rest, in analyzing the soundness of the logic by which one value is based on another, and in examining the logical consistency among their values. This enormous task will keep us all busy for a long time to come, without bringing us to insoluble problems involving ultimate values. And one can only deny that this is the approach we should be taking by showing that ultimate values are encountered early rather than late in the process of tracing back the logical underpinning of everyday value disputes.

Let us take the hypothetical example of a sixth grade class discussing a particular issue about freedom of speech. Assume that, in the midst of an explosive social situation, the making of a scheduled political speech by a member of the opposition would involve a large risk of rioting and loss of life. Should the authorities prevent the speech?

A common approach, in the rare cases where this kind of material is discussed at all, is to earnestly ask the class what they think should be done. Should the sixth-graders' views on this subject be regarded as important, interesting, valid? No, no more than their views on the merits of Freudian psychology or the quantum theory. Can the teacher tell the children what the right answer is? Probably not, since her views may have not better factual and analytical basis than those of the children.

One way to begin to analyze the practical problem mentioned, where the value of life has to be weighed against the value of free speech, is to imagine what it would be like to abandon one of these values. If, for example, we abandoned freedom of speech as a value, what new institutions or system of rules would be required or possible to ensure a well-informed populace? What would be the logical consequences, for other values in our system, of abandoning the right to speak when speaking threatens life, limb, or property? What facts would be needed to assess the consequences of the change? How would it be decided whether to ban the speech? What redress for wrong decisions would exist?

The educational process suggested here has nothing to do with indoctination in its usual sense of an effort to instill particular values or viewpoints other than by rational proof. In some contexts, indeed, indoctrination is taken to mean the instilling of particular values plus a resistance to rational examination of those values; sound educational policy must explicitly condemn indoctrination in that sense.

A third and perverse definition of indoctrination is sometimes encountered, according to which any process that affects the values held by individuals is indoctrination. By the first definition, indoctrination is nonscientific, which does not necessarily make it a bad thing. By the second definition, indoctrination is anti-rational, and therefore a bad thing for those who value rationality, as educators must. By the third definition, indoctrination is neutral with regard to rationality and morality, which may or may not be flouted by such indoctrination. Unfortunately, the term is all too often used without analysis, as a pejorative term to discourage the application of scientific methods to the study of values, and it then becaomes a tool for irrational and immoral ends. Such use is irrational because it denies the use of rational methods to problems for which they are appropriate. It is immoral because it stands in the way of moral progress.

Our goal should be the straightforward development of cognitive skills for handling value disputes--not persuasion or indoctrination in the usual sense. Moral reasoning and the moral behavior it indicates should be taught and taught about, if for no other reason than that it is immoral to keep students ignorant of the empirical and logical bases behind the morality which is behind the law and the institutions which incorporate this country's virtues and permit its vices. But in addition to this intellectual payoff is the practical benefit to a society of possessing members who are skilled in making value judgments.

Such a society becomes a moral community, offering important benefits to all of its members.

Values in the Curriculum

Values in the curriculum should not be a wholly separate subject, but should have the status of a pervasive substructure, like critical thinking and clear expression. Value analysis work should begin in kindergarten and continue, with problems of increasing complexity, through high school. We can begin at what may be called the level of practicality in value analysis--the evaluation of products. Then, we might go on to the area of personal problems where questions arise about behavior that is wise or foolish, sensible or not. We can talk about good and bad behavior, meaning, at this "prudence level," good or bad for you. We can then progress to the area of social problems--morality in law and politics--and finally to the level of international problems, where we come to the root question of whether or not international conflict is a domain for morality, a domain where moral judgments other than prudential ones can be given sense or made to stick.

I think such a sequence suggests itself naturally, and presents many advantages. Even at the early level of the evaluation of consumer goods, there are rather sophisticated procedures and distinctions which will carry throughout the rest of the curriculum. But at that early stage, the basic moral problems do not yet need to be faced. As the student grows older and the subjects more complex, more practical ethical problems are introduced, in the course of teaching other things.

A Basis for a Moral System

As teachers and students push the logical analysis of values farther and farther, the question of ultimate values will arise more and more insistently and, eventually, perhaps even legitimately. If an ultimate value must be found, the best candidate for the position is 'equality of rights." This is a value to which our schools and our nation are already politically committed, and thus has the great potential advantage of being reinforced by the prevailing mores. It is not open to criticism on the ground tha appeal to it in the public schools violates the separation of church and state. Equally important, "equality of rights" is a value upon which a whole system of morality can be built, a complete rational system based on this single premise.

There is not time here to spell out the moral system that can be based on equality of rights, but one can say that it is a system very like the humanist tradition of this country, as well as much of the Christian and Buddhist traditions. Neither is there time to describe the full meaning of equality of rights, although it is essentially embodied in the provisions of our constitution and our laws on voting and due process. While I do not object to giving "equality of rights" the temporary status of an ultimate value, a strong argument can be made for supporting this value on rational grounds, by appeal to probability, game theory and welfare considerations. As indicated earlier, it is still an open question whether any values are needed that go beyond that which is supportable by rational appeal to logical analysis.

Techniques

There are two dimensions to teaching how to handle values: the cognitive and the affective. We have been discussing mainly the cognitive side of values. In cognitive training, the methodology is that of the logician and the lawyer. In the analysis of legal systems, such questions arise as, What would be the conflicts if everyone followed this rule? What exceptions can be justified for this rule? and, What cases are subsumed under this general principle? Still other questions, the answers to which require factual materials from the social sciences, are, What would be the consequences of breaking this rule? What alternative rules might serve the same function? What is the significance of a particular custom to those who support it?

But there needs to be moral motivation as well as moral insight, which brings us to the affective side. The basic motivational training for a moral system based on equality of rights is closely connected with the training needed for understanding the positions and motives of other people. It requires seeing yourself in the other person's shoes and fostering of empathy and sympathy. Role-playing is appropriate in a great variety of historical, political and social situations. It encourages full use of materials available to support the role, and requires an active effort to understand the position of the person whose role is assumed; it is an excellent way to promote sympathy, and hence to promote moral behavior under the axiom of equal rights. Other techniques that will help to put the student into another's position are the use of graphic audio-visual materials, field experience, interviews and discussions.

Materials

With few exceptions, there should be no separate materials for value-training, just as there should be no separate subject matter. For the most part, materials should be multi-purpose. Some examples follow.

In elementary science, students could begin very early to evaluate the relative merits of instruments. They could, for example, construct their own balances, and discuss with each other the relative merits of criteria of sensitivity, capacity, cost and ease of use.

Another example is the use of materials from American constitutional law. Constitutional law embodies much of the nation's moral code. It represents an attempt to create a just or moral society, and its legal aspects give good training in the study of moral analysis. Since constitutional law also reflects much of a nation's history, it provides for moral analysis an ideal entree to the schools' history offerings.

Conclusion

We need an approach to values in the curriculum which is pedagogically more explicit than at present, but not necessarily handled explicitly in a separate part of the curriculum. We should train students to assess alternative arguments about values in a consistent and intelligent way, and to push the rational analysis of values as far back as they can. Seldom if ever should a discussion of values end with the conclusion that the view of the student--or of the teacher--is as good as anyone else's. A value judgment is as good as the reasons for it, and as weak as the reasons that support alternative views.

CHAPTER 15

ROUND TABLE: VALUES, MORALITY AND RATIONALITY

Understanding, Versus Commitment To, Others' Wants

Taba: I would like to get a little more clarification on the affective and cognitive sides of valuing. Let's take the example of putting yourself in another person's shoes. The playing out is one thing. You play out what you already have inside of you and feel. But there is also the question of the expansion of empathy. Does an increase in skills of argumentation cause an expansion of sensitivity? The materials you use for empathy have to be different from the materials used to develop cognitive skills. They have to bring new meanings or extend feelings in some way.

Scriven: I make your distinction between playing roles and increasing sensitivity very sharply. I want people to see that they have to do more than teach children the role-swapping technique. If they want children to behave morally, then they have to get them to sympathize with the other child whose role they adopt. They must feel the pains of the other child. This is where the distinction between indoctination and education is crucial. That is why it is of very great importance to me that we support the equal rights doctrine. Given an understanding of that doctrine, I can argue that if a child puts himself in another's shoes and understands what he wants and what his point of view is, he will come to a moral conclusion, a conclusion that will move him and change his behavior. And I think that we are entitled to put some pressure on him, as we do every day in every school in this country when we say, "How would you like it if Johnny took your pencil?" It is not as if we don't do it. We do it all the time. I am arguing that we ought to be honest about it, and that we are perfectly right in doing it.

However, you are quite right that understanding and a commitment to act are two quite different things. The extension of one's analytical capacity to see the point of view of others is one very important part of moral analysis. The second part, the extension of your motivational structure, means that you are moved by the other person's point of view. I agree that both are important, and that we ought to be prepared to develop both. Parents, of course, have much greater rights and obligations concerning moral training than do the school systems; they should see that they have to do better in such matters.

Shaver: In teaching empathy, the Harvard Project used a variety of materials, including what we called "empathy" materials. For example, the students in the suburban community where we taught didn't know much about slums. We found a very good movie, The Quiet One, which very graphically illustrates a Negro youngster's day in a slum. The purpose of the film was to emphasize what living conditions meant in the boy's life. Many students were shaken by the movie.

Defending One's Values

Shaver: There is another aspect that we have found extremely difficult to teach children: analysis of the discourse taking place. This analysis is extremely important for arriving at a rational decision. We asked our students to keep two questions in mind: (1) "What is my position, and how can I defend it?"; and (2) "What is going on in the discourse, and how can I analyze the intellectual process so that I know what is appropriate next?" One of the most crucial cognitive concepts to teach youngsters, for example, is the concept of relevance. They must be able to analyze the discourse and decide what is relevant at each point in the argument, if the argument is to be productive, that is, if their own position is to be clarified along with those of others.

We wanted the children to know that we were concerned about their opinions, because we wanted them to examine their own commitments, and to be able to support them. Our students were amazed when they discovered that we were really interested in what they believed, and that if they could support their position, we would accept it rather than insisting that they adopt our position. It is the process by which you arrive at a decision that is crucial. Different people using sound intellectual processes arrive at justifiable positions which are different.

We used two strategies in having the children take positions and defend them. One was to have a student take a position and defend it personally in a one-to-one confrontation with the teacher; the other was a type of dialogue, with a lower affective level. With the first style, the student was asked, "Do you think the police should have dragged the speaker off the podium?" "Why do you think that?" "What values support your position?" Using the second style, the teacher would ask, "What problems can you see with the action of the police?" "How do you think other people would react to this situation?" With this second style, no one student was forced to take a position and defend it. Issues were dealt with at what I call the societal, as opposed to the personal, level.

Our research on the use of the two methods showed the following: When we made an overall comparison of the two methods, there was no significant difference, as is so often the case in educational research. But when we categorized students on personality traits, we found that one type of student did better with the first style of teaching, and another type did better with the second style of teaching. These results are not only interesting in themselves; they also point to the possibility of much more fruitful educational research, through greater use of designs that show interaction effects.

Affective Impact of Value Questions

Sigel: An important problem here is that your project was getting highly involved in the affective life of the child. Irrespective of the academician's rational, analytical approach, these values have high affective valence for the child. Conflict is produced which can only be "resolved" by acceptance of the conflict--which is a very difficult thing for children, or for any of us, to do. There can be conflict of the child's beliefs with society's views, with his parents' views, and also with what the child perceives as the teacher's beliefs, no matter how neutral or supportive the teacher tries to be.

Such differences in viewpoints become very significant because we are now much more in the affective than the cognitive area. Regardless of the skills employed to solve the value problems, the content is highly emotional.

There are many out-of-school factors. Unless we are sensitive to them, and especially to possible school-home conflicts, we are discussing values in an ivory tower. If a child in the South goes home and says, "I learned in school that the I.Q.'s of Negroes are as high as whites," there may be real trouble for the child and for the teacher.

Shaver: You are right. We found that children are frequently punished rather than rewarded for thinking in ways that are original or independent. Exposure to our curriculum created a lot of problems at home, and we found it useful to give our students advice about "using reflective thinking judiciously," which meant, "Be cautious about challenging your parents' positions." A youngster is doing something that is quite reasonable but very upsetting to his parents when he tells his father that he doesn't have evidence for his position, or that there is another value that he is not considering, or that he should define his terms more carefully.

Scientific Versus Ethical Questions

Senesh: I would like to direct a question to Professor Scriven to clarify my own thinking. Suppose that I ask my class a question, and you ask your class a question. My question is, "What caused the unemployment during the Great Depression: the low level of economic activity, or the laziness of workers?" My reason for asking the question is that I know ahead of time that I have failed the student if he tries to prove to me that lazy workers caused the unemployment. Now, you ask your class, "What is more important, liberty or prosperity?" I pose this problem because you have indicated that there is hardly any difference between the two questions.

Scriven: The big difference between the two questions you have posed is not that one is in economics and the other in ethics. It is that the economics question is rather specific, while the ethics question is quite abstract. Suppose your question were, "What causes unemployment?" Then laziness and lack of demand are both plausible answers. The question, "What caused unemployment in the Great Depression?" is much more specific, and a specific answer is possible.

I am entitled to the same degree of specificity. I have an answer to the question, "Is liberty more important than property when somebody, by publishing an editorial which criticizes the government, finds that his newspaper is burned?" I think I have failed my student if he says that burning a newspaper is such a serious crime against property that we ought to censor the editor.

My point is that we cannot give students "right" answers to questions that are extremely complicated, or very abstract, or poorly specified. Our duty as teachers is to show them how to find the arguments on both sides of such questions, what they have to do to find additional relevant evidence, and what are the various values that must be considered.

Ends and Means

English: We seem to keep getting close to what has been the big headache for me in trying to develop a social science program and trying to help teachers teach it. I agree entirely with Professor Scriven that we have to introduce ethical discourse, rational criticism of values, into the whole school curriculum, including the social sciences. The real problem for a social science teacher is to show the youngster how, when his values are clear, he makes them take effect in society? What I am saying here is what Max Weber said long ago: the relation between the intent of a political action and its result is almost always paradoxical. What seems to be restraint, justice, correct action in a given situation, may actually cause more injustice. One of the dangers in teaching youngsters to argue purely in terms of rational values is that they may miss this kind of thing.

This is the old problem of means and ends. There are situations in which, if you use certain means, you won't get the ends that you were hoping for. This is something that the social scientist is up against all the time and should try to deal with in his classes.

Shaver: I disagree with your assessment of the danger. If I understand you correctly, you are talking about another very important element in the curriculum to be taught, in addition to rational analysis of values and policies. The question is, once you have decided on an appropriate policy, how do you ensure that it is implemented?

Scriven: I think that Dr. English is indicating a source of uneasiness about the tough line on values which I take, and that his question should be answered explicitly. It does not follow, from the conclusion that one knows how things ought to be arranged, that one should, therefore, set out singlemindedly to bring about such an arrangement. It is extremely important that, as part of ethical and value analysis, we consider reasoning such as this: "If we had a revolution, the resulting state of affairs would be incredibly better than the present state of affairs; but it isn't worth having a revolution to get the change, because the gain isn't as big as what we would lose in the revolution." I think the message illustrated here has got to be repeated many, many times. One must not think only in terms of ultimate goals, but also in terms of the cost of intermediate goals.

You must also take account of another point: "Don't strive for what is right if it is opposed by a large number of the people, even though they are wrong or probably wrong, if the gain is not greater than the cost of overriding what they want to do." This is a separate point. It isn't just that the course of bringing about this state of affairs may be so expensive that the ultimate gain is negative. But it is also the case that with respect to somebody's values which are indefensible, you may have to make a big allowance, not as if they were actually defensible, but very much of that magnitude.

Social Studies as a Vehicle for the Study of Values

McNee: I would like to hear more discussion on the whole question of the relation of the social sciences to the study of values. Let's grant that the study of social values, or values in general, must be a part of the curriculum. Let's grant also, as Professor Scriven has very well established, that there are advantages if the teaching of values is linked with the social sciences. What we haven't directed ourselves to at all is the opposite side of this coin, which is: "What are the pluses and minuses for the social sciences in having them taught in connection with values?" I don't think you can get anything free in this world. If you link the teaching of values with social sciences, perhaps you lose something by not linking it with, say, language arts.

We are bound too much by tradition. We all seem to be thinking that the social studies exist as an unchanging package in the schools, rather than thinking that there are certain things that we want to get across, and asking what are the various possible curricular arrangements that would yield the best results.

Shaver: The best way to arrange the social studies is an empirical question. But I don't think that the important question is what the social sciences tend to lose or gain. That is really irrelevant to general education. The important question is, what do the social sciences contribute, what can they contribute, to general education? We can't avoid the question of what we want to do with general education. We must ask ourselves, "Is it part of the general education program to train social scientists--to induct students into the social sciences?" We also have to ask if it is part of the general education program to induct students into carpentry, and into deep sea fishing. I do not think that general education owes anything to the social sciences.

McNee: You are willing to be the rider, but not the horse. You want to teach values, or teach about values, and you are willing to use the social studies if that suits your purposes. But you are not willing to have the social studies people use values to suit their convenience.

Shaver: No. I am saying that the social sciences are an important ingredient of a general education program aimed at teaching children to analyze public issues. The social sciences have a lot to contribute in the way of information about an issue and the context of the issue. Social science also has a lot to contribute in methodology--hypothesis-testing, the historian's concern with the validity of documents, and the like.

Whether the student learns to use these concepts or intellectual strategies and to apply them to public issues best in the context of a course based on the structure of geography or some other social science, or in a course that I might organize to deal with important public issues and bring in social science concepts as they seemed relevant, we don't really know. We did find out in the Harvard Project that over a two-year period when our students put in only about one-third of the usual time on a U.S. history course, their learning of U.S. history and political science did not suffer. As a matter of fact, when we looked at items testing knowledge that was part of a history course and also relevant to our problem units, such as racial segregation in the South and problems arising from the growth of labor unions, we found that our students learned more history than students in a regular history course. This experience indicates to me that there is doubt that basing courses on the individual social sciences is the best approach for general education.

Morrissett: Professor Scriven, you seemed to accept the idea that the social studies curriculum is a proper place for value judgments. Would you care to comment further?

Scriven: You have to distinguish two types of value judgments, non-moral and moral. Elementary science study is one of the places where it should be stressed that the empirical sciences are also involved in evaluational activities--the evaluation of instruments, descriptions, theories, hypotheses, predictions, accuracy, and so on. All of this is part of the activity of the scientist, whatever field he is in. So, evaluating goes through the whole structure of education, whether it is physical, biological, language arts, or whatever. But I want students to see that moral value analysis has little relevance until you get to the place where more than one human being is involved. That is what morality is about. Moral judgments naturally come into social sciences more than into other subjects because the social sciences deal with relationships among people.

Morality and Rationality

Morrissett: Professor Feigl, do you have a comment?

Fiegl: I am still a little confused as to whether we are talking about the same thing when we talk about values in the social studies curriculum. So, I want to repeat for emphasis something Professor Shaver has said already very clearly. Namely, it is one thing to study evaluations--and clearly the social studies and social sciences are full of such studies--but it is another thing to inculcate values. I am not saying indoctrinate, but rather to impart some value attitudes, to mold the evaluational attitudes of those to be educated. This can be done in a variety of ways. It can be done in a physics laboratory by showing that it is unfair to use an instrument that another person has just prepared for an important experiment. There is an ethical issue there. In any kind of context, moral questions can come up.

Now, I whole-heartedly agree with Professor Scriven that we should carry rationality to the limit, but we should first lay our motivations frankly on the table. We are both humanistically inclined. This is only a label, but you probably understand what I mean. We feel that in this day and age of science, the fundamental basis of value judgments, moral value judgments, should not come from the supernatural, should not come from a theologically framed religion, but from somewhere in human nature. This is a very rough and inadequate formulation. But both of us believe that moral value judgments should be rational.

However, Professor Scriven and I are also very much interested in the analysis of meanings of terms, and he knows as well as I do that the term "rational" and the noun "rationality" cover a multitude, not of sins, but of virtues. To speak the language that we both understand and appreciate, like the language of Ludwig Wittgenstein, there are family resemblances, not necessarily strict common denominators, among the various meanings of a given word, such as the word rational. I will list only a few of these meanings.

(1) We say that a person is thinking in a rational way if his performance is in accord with the norms of deductive logic: consistency and conclusiveness of reason is one virtue.

(2) A person could be quite consistent and conclusive in his deductive reasoning and be quite irrational with respect to inductive logic. In other words, he does not learn the lessons of experience; he does not make the proper generalizations, or inductions.

(3) We call a person irrational if he uses the wrong means toward the end that he has in view. If I take a pound of butter in order to pound a nail into the wall, you will say, "Feigl must be crazy." It is not a very good way to hammer a nail into a board.

(4) Professor Scriven also pointed out that we must consider the cost of the means, and not just the financial cost. There are all kinds of burdens that we impose upon ourselves in order to reach certain ends, and if someone does this in a very inappropriate way--if he uses means that are much more costly, not in financial terms only--then we call that irrational. On the other hand, a very effective use of means, a very parsimonious choice of means, is another meaning of rationality.

(5) Finally there is ethical rationality. If you conceive it roughly along Kantian lines, it seems to be rational to allot equal rights to everybody; it has a certain flavor of rationality. I agree that there is a family resemblance, but no more than a family resemblance, between the previous concepts of rationality and the concept of moral rationality that includes the norms of fairness, justice, and equality of opportunity for all. But it is a different thing.

My major question to Professor Scriven is: Is not the norm of equality itself a matter of commitment rather than something that we can justify empirically? If we do justify this norm empirically and say that it, too, can be regarded as a means to another end, namely, a happy and harmonious society, then we can immediately repeat the question, Is this end morally right?

Berlak: I would like to add another question, because I think Professor Scriven can handle them both at the same time. What is the role of empiricism in morality, and how is empiricism related to rationality?

Scriven: First let me speak to the argument of Professor Feigl that you must distinguish the study of people's values from indoctrination. He agrees with this distinction, but doesn't quite see that what I am talking about is something different. I am talking about training people to make the evaluations right; and I am saying two things about such training. One, we do it all the time, and we know very well we can do it properly; yet, we conceal from ourselves the fact that we do it. We do it with respect to teaching how to do good, how to give good answers to examination questions, and how to distinguish a good from a bad account of the causes of the American Revolution. We do it when we are talking about whether or not this microscope is a good microscope by comparison with that one.

The instances I have mentioned are all cases where the fight about the criteria is not the big fight in terms of Professor Shaver's illustrations. But that doesn't matter; it is still valuing, evaluating. It is still the activity of making value judgments in the straightforward sense that you come up saying that something is good, better, worse, bad, and so on. We should be explicit and honest about this. We also should push it as hard as we can and be willing to move it into the social sphere and talk about the superiority of a particular form of government in a particular time and place. We should be willing to say, for example, that trying to run a medieval system in the situation described in the E.S.I.

unit was a mistake. It was not the best system for those people at that time, and we can show why it was not.

Feigl: But you have some norms up your sleeve.

Scriven: I have no norms up my sleeve. I have up my sleeve the fact that I have studied these people enough to see what in fact they wanted. It is not a norm; it's a fact about them.

Professor Feigl's comment brings us to the second point--his concern about the ultimate values to which I am appealing implicitly. First of all, I think rationality is not a concept with multiple meanings at all, but a cluster concept with multiple strands. That is quite different. Each of the things which Professor Feigl mentioned is a very important factor in determining somebody's rationality. One of them is not determinant; that is, a person might slip on one of the types of rationality, but if he holds up on all the others you will still judge him to be a pretty rational person. So, none of the particular types of rationality is a necessary condition, but the sum of them is a sufficient condition for being rational.

Moral rationality, Professor Feigl's fifth category, seems to me independent of the others until it is shown to be dependent on them. I do not take moral justice or fairness to be a criterion of rationality until a demonstration is given that it is irrational for people not to be just or fair. That demonstration requires proof that the axiom of equality is in fact not the preferred axiom for the distribution of interpersonal consideration in society. That axiom has got to be made to stick.

I make the axiom of equality stick in a straightforward way. Imagine a group of people with different though somewhat overlapping concerns, ultimate values in Professor Feigl's sense, needs and wants in my sense. There are various ways in which these people individually may act with respect to the others. They may give the others no direct consideration at all, concerning themselves with others' welfare only insofar as it is instrumental to their own good. Or, their behavior might be anywhere on the spectrum up to complete altruism in which the slightest whim of another is a ground for them to kill themselves. Can we say anything about the empirical results of adoption of these various attitudes toward others? This is the key element in morality. I argue on analytic grounds that, in fact, the equality axiom gives the optimal solution. It is optimal in every situation in which your power to enforce your desires is not greater than the combined force of all others who might band together against you. This condition has held throughout the history of every society whose members have even the slightest education. That is the argument.

Two comments should be made about this argument. First, it does not beg any moral questions. I am not saying this is the best form of morality because of some previous moral commitment. I am saying that because you are hungry, and because you want to socialize, because you want shelter over your head, there is a practical problem in front of you. Out of that practical problem, we generate the system of allocation of consideration which is morality. There is no presupposition of morality.

Second, the question arises of what we should do with the argument in the school system. I say that whether or not you agree with my arguments for the superiority of that axiom, you are not allowed to teach in the school system if you do not accept them. Ours is the school system of a democracy which is committed to the equality axiom in just the sense that I have stated. This is the sense that is embodied in our constitutional law, and is a basis for the morality system. Thus, I have supported the argument on both theoretical and practical grounds.

A final point, in response to Professor Berlak's question: it seems to me that the notion of rationality includes empiricism. When we say that somebody is rational in the ordinary sense, we include empiricism. In the same ordinary sense, I am saying that the support for morality is empirical, that the support comes from objective, observable facts. And it is the social sciences which give us the data for solving the empirical aspect of moral disputes.

That is why social sciences are peculiarly relevant to moral judgments.

Rational Arguments for Ultimate Commitments

Feigl: I want to reply to Professor Scriven by saying that one man's whim is another man's profound moral insight. The majority is not necessarily right. If you look at what little we know about the development of moral codes throughout the history of mankind, you find some genuine innovations. I am disregarding now the theological aspects, such as matters connected with after-life and relations to the supernatural, and thinking only of moral attitudes and behavior: love thy neighbor, and even thine enemy. The Romans, the great stoics, even Aristotle himself, had absolutely no taste for that. So, this was an innovation.

Can we give rational arguments for these ultimate commitments, such as love thy neighbor and the principle of equality? I maintain that the cultural anthropologists of the last century confused mores with morality. Proof that folkways are different in different places on earth requires only a trip around the world. That is obvious and trivial. What is perhaps not quite so obvious is that there is a convergence in the moral ideals, in the norms, of mankind. Despite the horrible violations of these norms, as in recent history, these standards come more and more to the fore in humanity at large. Perhaps I am overly optimistic on this, but I do think that certain principles of morality emerge, as in our civil rights program and our growing objections to war.

There are moral commitments in back of these convictions about social issues. But I do not think that we can justify them as means to further ends. You come to the end of the rope somewhere, in a logical reconstruction of any kind of dispute concerning what ought to be done.

Scriven: You come to the end, but the end is not a secret ultimate value. It is needs and wants. It is the facts of life. It is the fact that you have got to solve the problems of social living if you intend to continue to live, not because you are saying that life is good, but because you are saying that you want to live.

Shaver: That is a value judgment.

Scriven: Of course it is a value judgment, but not a moral value judgment.

Shaver: Yes, it is an ultimate commitment.

Scriven: It is not a moral value judgment. We are talking about where the moral ultimate comes from. It is not a moral source. Of course, it is an ultimate commitment. That is what gives the driving force to search for the moral solution. There is no question about that. Reason, as Hume said, is the slave of the passions. If you don't have interests, you are not going to be concerned with logic. The fact that you have interests, that you want to live, is a fact. It is not a value judgment. It is a fact.

Feigl: But it doesn't settle moral issues.

Scriven: The desire to live does not settle moral issues. It generates the problem from which you construct the system of laws and morality which does settle moral issues, and which creates the concept of morality. In precisely the same way, an interest in games creates the game of chess, for which the phrase good move is then defined.

Shaver: We wouldn't necessarily all conclude that life is good.

Scriven: Not in the least. The remark that life is good strikes me as vacuous. I don't think it is either good or bad; it just is. But killing people wantonly is bad.

Shaver: Why?

Scriven: Because that is something you can evaluate in the framework of rules and norms which can be defended rationally in the situation where it is a known fact that people want to live. You do not have to come up with a conclusion that eating is good or that life is good. That is the power which drives the system to live.

CHAPTER 16

CONCLUDING COMMENTS

Herbert Feigl
Michael Scriven
Lawrence Senesh

Herbert Feigl

I want to add a few remarks on the value problems that have been discussed. There seems to be agreement that the school as well as the home has some responsibility for moral education. Since this is so, we should be clear on the philosophical basis for the inculcation of fundamental norms.

I still hold to my previous opinion, which differs from Professor Scriven's. There are ultimate values, which cannot be justified by appealing to logical consistency, deductive reasoning, or empirical research. When there is divergence in judgments, based on ultimate values, there are four possible procedures to settle the differences: (1) coercion--sometimes requiring violence, which I abhor; (2) persuasion; (3) compromise; and (4) higher synthesis.

We can illustrate these methods with an example of two fellows who want to go out for an evening. One wants to go to a burlesque show, the other to a James Bond movie. The issue is not important enough to suggest coercion. One may be able to persuade the other to his point of view. They may compromise by going to both shows in succession. Or they may decide on a higher synthesis, by going to the symphony! In international matters, the alternative to coercion may be found in a higher synthesis, in which national sovereignty is abandoned and a world state based on world law is created.

I am optimistic enough to believe that through the experience of living together on this planet, we are slowly approaching some sort of common denominator in our basic moral norms, such as: do not do harm to your neighbor; love thy neighbor; be kind, helpful, fair, just; and try to achieve certain personal perfections. Of course every one of these terms is open to persuasive definition. My viewpoint is that of a scientific humanist, which seems to me to be a proper solution for our age of science.

Michael Scriven

A fallacy that seems to be commomplace in curriculum structuring is the imposition of logically sound categories on curricula without investigating the question of their pedagogical utility. The field of critical thinking gives one of many examples. There are logical distinctions of great importance between hypotheses and observations. But it is not worth structuring curriculum in terms of these logical distinctions unless they have, not just teachability, but value in teaching. They must contribute to increasing enlightenment.

There is no evidence that, because things are perfectly clear to a teacher or curriculum maker, it pays to make them clear to the student. I looked at a sociology curriculum recently and came to the following conclusions. It teaches a vocabulary, but the net intellectual gain from it is indistinguishable from zero. If you want to talk to sociologists then it is splendid: you can talk to sociologists. If that is the value you are aiming at, it has a value. But we are supposed to be talking about other kinds of values: insight, the capacity to explain, the capacity to predict, and the capacity to classify and describe more efficiently than we could before. If these are the criteria, vocabulary itself does not contribute toward meeting these criteria.

It is not that one can easily say what classifications give one intellectual insight. The history of psychoanalysis is the history of a fight about this kind of question: Is psycholanalysis a re-description of old phenomena or is it a genuinely new and explanatory theory?

None of us ought to go very far with curriculum work without getting one of our worst enemies in as an evaluator. We must give him money to tear our curriculum to pieces. We must listen to somebody who says, "What you are doing is teaching them a new way of talking about the same old things, and at the end, they won't know a thing more, except a new way of talking about it."

There is another general point to be made about attempts to produce conceptual reforms of the curriculum. There is a tendency to go looking for concepts to hang everything on, the "fundamental concepts" of the discipline, and then to hang everything on them. Nothing is more boring than doctoring elementary material so that it will hang on the same coat rack as Ph. D. theses. The kids are bored by it, I am bored by it, the teachers are bored by it. Of course, it looks neater. We have restructured experience in terms of 9½ basic concepts; but that is not really what we are after. We are trying to increase the extent to which children understand those aspects of their experience which they did not understand before. Understanding is not just describing.

There is no clear empirical evidence that giving highly organized structures of knowledge to the children is really going to be the best use of our time and theirs. It may be that it is much better to spend a very little time giving them hints about the overall organization, and to let the full picture come alive as a by product to discussing in low-level terms many specific cases that they find interesting and challenging.

Another matter that has come up in the conference is the defense I gave in the Ford and Pugno book for teaching geography and history early in the schools, which is quite the opposite of Professor Senesh's approach of using the other social sciences in the elementary grades. My reason for suggesting this sequence is that the theories of sociology, economics, anthropology and political science are so very weak, as compared with the validity of the data available to them, that it would be a fatal disservice to education not to communicate the data and it is this which comprises history and geography.

In our discussion of cooperative work among the disciplines, in the Consortium, I have talked of a multi-disciplinary approach, rather than an inter-disciplinary approach. The notion of an ultimate synthesis of the social sciences is a dangerous myth, and an educationally vacuous myth, at the moment. There could be an ideal setting in which we can synthesize social sciences and produce something pedagogically valuable. Right now that is not true, but each of the social sciences has an enormously important contribution to make. The children will understand this better if they see the social sciences as autonomous subjects. I agree with Professor Senesh in this respect. We should not try to blend the social sciences until we know much more than we do now.

Lawrence Senesh

In making concluding remarks about the conference, I will confess at the beginning that I consider this an opportunity to sneak in some ideas of my own that have not been brought out sufficiently in the conference.

One very important point should be emphasized, because it has such a far-reaching implication. It is that the child lives in a real world where he is exposed to all kinds of experiences. The home environment is sometimes one of brutal social realities. Television brings the outside world into the home. Modern communications and the child's own experience bring poverty, violence, discrimination, traffic accidents, authority or lack of it, within the view of the child. Unfortunately we cannot tell life: "Please wait until the child is ready for these experiences." The child's mind is overwhelmed by social realities. It is our job to help children discover a design that underlies the chaos of events.

I do not agree with those who say that ideas and theories are more complex than experiences. When a child asks questions, he is seeking orderliness, a simplification of facts -- which is what theory is.

Theory is the ordering device for life itself; and life is the curriculum, not economics or political science or sociology. But in order to understand life, we have to use the individual social sciences, for the sole reason that there is no unified social science theory yet. That is the reason I see no sense in teaching social studies, which consist of generalizations of such a high level that they are not useful in problem-solving situations.

Earlier in the conference, we discussed the relationship of knowledge to behavior, attitudes and skills. I became more convinced than ever that it is through the use of the analytical tools of knowledge that we get the desired changes in behavior, attitudes, and skills.

Professor Sigel described in his speech, quite correctly, the many obstacles in the way of communication between the theoretician and the child. I hope that his speech was not meant to discourage us, but rather intended to irritate and stimulate us to more innovation. The difficulties must be overcome, and we must learn how to establish a meaningful relationship between the child's experience and the body of theoretical knowledge.

The conference has probably opened up more questions than it has answered, and I will mention those that seem most important.

(1) A question raised by Professor Taba a number of times, as well as by others, is: "How can this dialogue among specialists such as those gathered at

this conference be continued so that some useful synthesis of their knowledge, interests, and efforts will emerge?"

(2) How can we best encourage progress in evaluation methods, so that we know whether the innovations into which we put so much effort are right?

(3) How do we know whether the "market" is ready for new curriculum ideas? If the market is not ready, should we put the new ideas in mothballs until it is ready? Or should we do as most business firms would do: advertise and create a need for the new product?

(4) How can we establish good working relationships between the people who are primarily responsible for teacher training and those who work on curriculum innovation? This question has come up again and again; there have been many sparks, indicating continuing conflict. I don't know how serious the conflict is, but we should think very hard about how to bring about cooperation between these groups.

---

1. G. W. Ford and Lawrence Pugno, The Structure of Knowledge and the Curriculum (Rand Mc Nally & Company, 1964), 87-105.

SURVEY OF SOCIAL STUDIES CURRICULA AND TEACHING

Wilbur B. Brookover, Director
Social Science Teaching Institute
Michigan State University

SURVEY OF SOCIAL STUDIES CURRICULA AND TEACHING

Purpose

In 1916, according to the historian, Charles Keller, university professors and social studies teachers in the schools by and large ceased communicating.

Today, fifty years later, many university social scientists have once more become actively concerned about social studies programs in the schools. Government agencies and private foundations have financed a number of research and development programs in social studies education, and the resulting wealth of materials and curriculum proposals could revolutionize social studies teaching.

Yet, any sound program of social change must be based on a knowledge of the structure on which it is to be imposed. And outside of course titles and printed materials used, very little is known of the current state of social studies in the schools. No systematic, broad-scale study has been made.

Course titles and printed materials only hint at the content of classroom teaching. Little or nothing is known of the extent to which modern social science concepts have penetrated into the classroom content of courses with titles like "Civics" or "World Geography". No body of research tells us what values are being instilled in the classroom or what goals teachers and administrators perceive for their social studies programs. The desire for change on the part of teachers and administrators is unmeasured by any reliable scale. The educational level and attitudes of social studies teachers are [illegible] unknown factors.

There is currently no guideline against which future progress can be measured. Nor is there substantial indication as to whether studies currently in progress will help remedy all the weaknesses they might in the present programs.

In January 1965, the Social Science Teaching Institute at Michigan State University initiated the development of a series of questionnaires designed to collect vital information relative to the current status of the primary and secondary social studies programs in our public schools. As a preliminary step two major conferences were held in East Lansing during the months of November and December 1964. The primary purpose of these conferences was to determine the kinds of information that would be needed for the proposed investigation and the most appropriate methods of collection that might be used. At the November conference a number of distinguished university social scientists were invited to participate; at the December conference a select group of primary and secondary social studies teachers were invited to the campus.

After a careful review of the transcripts of each conference, the staff at the Social Science Teaching Institute proceeded with the construction of the first set of instruments. This initial set (which has since undergone five major revisions) was designed to collect data in twelve critical areas. The areas included:

(1) Basic control information (name, name of school, course or grade taught, sex, etc.)

(2) Objectives of social studies courses.

(3) Use of textbook and procedure for selection.

(4) Degree of change in social studies programs.

(5) External and internal influences on the social studies curriculum.

(6) Background information on the teacher (educational level of parents and spouse, courses taken in eight social science disciplines, associational activities, student teaching preparation).

(7) Identification of social issues considered inappropriate for class discussion.

(8) Use of social science concepts.

(9) Use of supplementary materials.

(10) Critera for assessing students' grades.

(11) Teacher attitudes toward selected social issues.

(12) Methods of handling discussion of social issues in class.

At the present stage of development the instrument is composed of six sub-sections with a seventh sub-section under construction. All of the above data have been incorporated into the questionnaire. The six completed sub-sections are identified as follows:

I. INTRODUCTION

a. control data

b. objectives of social studies program

c. changes in social studies curricula

d. selection and use of textbooks

e. external and internal pressure groups

f. appraisal of social studies programs

g. distinction between social studies and social science

h. distinction between social studies and humanities

i. possibilities for the scientific analysis of social behavior

II. PERSONAL DATA (B-1)

a. control data

b. undergraduate and graduate educational background

c. family educational background

d. educational and professional responsibilities

e. associational activities

f. graduate and undergraduate hours in: sociology, geography, history, economics, psychology, political science, anthropology, general social science

g. opportunities for continuing education

h. problems related to the teaching of social issues

i. comparison of subject's position on issues with those of other members of his academic community.

III. SUBJECTS TAUGHT (S-1)

(A separate form is used for each social studies subject taught)

a. text and supplementary materials used

b. use of classroom time

c. use of course outline and (or) study guide

d. methods of assessing a student's knowledge

e. objectives of the particular course

f. students goals and objectives for this course

g. content areas of the course to be evaluated

IV. TEACHER ATTITUDES (T-1)

(The teacher is asked to respond to the following statements on a five-point scale; (1) strongly agree, (2) Generally agree, (3) Take no position, (4) Generally disagree, (5) Strongly disagree.)

1. All citizens should be given equal rights and freedoms.
2. It is wrong for people to practice any type of marital arrangement other than monogamy.

3. Every human life is sacred under all circumstances.

4. Every person should be guaranteed as much education as he can benefit by.

5. Students have an obligation to remain loyal to their friends rather than report instances of dishonesty.

6. All naturalized immigrants should have the same civil rights as native citizens.

7. Americans should support the dissemination of birth control information to all adults who request it.

8. There should be a high degree of conformity among students.

9. The government should not give aid to families that fail economically.

10. The American way of life should be extended to other countries.

11. The right to vote should be given to all adults regardless of their knowledge and understanding of our government.

12. The government should not have the right to halt a strike.

13. All United States citizens who are communists should be deported or jailed.

14. A child should not be required to salute the American flag if it is against his religion.

15. An individual should be permitted to achieve whatever he can regardless of the expense to others.

16. There should be stricter supervision of purchasable reading matter and movies in order to safeguard our children.

17. Corporal punishment should be used as a means of reinforcing our basic values.

18. Communist doctrines should be discussed in school.

19. Bureaucracy is a very serious threat to individual liberty.

20. We should faithfully support our country "right or wrong".

V. CONTROVERSIAL ISSUES (I-1)

In reference to each of the twenty statements outlined under TEACHER ATTITUDES, the subject is asked to respond to four structured questions concerned with how these issues should be handled in class. These questions are:

a. Could this issue be taught as an objective scientific question:

Yes ____1
No ____2
Don't know ____3

b. Would you teach anything about this issue?

Yes, I would make certain it was included in the course ____1
Yes, I usually do, but it depends on other topics ____2

Yes, but only if a student raised a question about it ____3
No, it is not appropriate at this grade ____4
No, it is not appropriate for social studies ____5
No, it shouldn't be discussed in school ____6

c. If yes, what conclusions or beliefs would you want your students to arrive at after it had been taught?

Accept the idea completely ____1
The idea is usually good, but there may be exceptions in some circumstances ____2
One conclusion or opinion is as good as another ____3
Usually this idea is not right, but it might be accepted in some circumstances ____4
Reject the idea completely ____5
Can't decide ____6
No response ____7

d. In general, which of the following methods would you use in teaching about this idea?

Present as a conclusion or belief with little or no discussion ____1
Present some facts and have moderate discussion ____2
Encourage discussion and the gathering of basic facts ____3
Have students examine the issue in historical perspective and/or in comparison with other societies ____4
Have students do a systematic investigation of the issue so they may base conclusions on the evidence ____5

VI. CONCEPTS I

One hundred and forty concepts are cited from the fields of geography, sociology, political science, economics, psychology, and history. The subject is asked to indicate if he (1) actually uses the concept in class, (2) teaches the idea without using the specific concept, or (3) does not use the concept at all.

The 140 selected concepts were condensed from an original list of over 1400 taken from the Dictionary of the Social Sciences. This list was subdivided by discipline and members of the faculty at Michigan State University in the corresponding departments were asked to indicate which concepts they felt students should be familiar with after completion of high school. The next stop was to have these selections reviewed by elementary and secondary teachers before final selection was made.

The seventh sub-section (under construction at the present time) is being included for the purpose of examining the teachers' use of fifty selected concepts in class. Below each concept are listed several possible meanings or ways in which the concept may be used. The respondent is asked to check the one response which most clearly represents his usage of that item. Three of the possible five choices vary in terms of level of sophistication, the fourth choice is a 'wrong response', and the fifth permits the respondent to indicate that he makes no use of the concept in class. Segregation, one of the concepts selected may serve as an illustration:

Segregation:

(1) separate sections of a city reserved for Whites and Negroes.

(2) the separation of people with like physical and (or) social characteristics.

(3) an ecological process which is always involuntarily imposed upon the members of a minority group.

(4) the act of discriminating against minority group members.

(5) do not use.

As a means of selecting the most appropriate alternative, a number of elementary and high school social studies teachers were asked to define the several concepts as they used them in class. Their responses were then transferred to index cards and classified according to grade level taught. By using this technique it was possible to place the responses on a continuum of sophistication ranging from the lower elementary grades through high school.

TESTING THE INSTRUMENT

During the various stages of development, the instrument was subjected to experimentation on several occasions. The first stage of the preliminary study was conducted at Indianapolis, Indiana. Several members of the faculty at both the elementary and high school were administered the questionnaire in an interview situation. Not only was this a time-consuming process (each interview required about 2 1/2 hours), but there was also a question of the validity of responses, since the subject could not remain anonymous. Next, members of our staff visited the school systems of St. Joseph, Warren Woods, and Petosky, Michigan, to continue with the experimentation of the instruments. Selected sections of the questionnaire were administered during personal interviews at St. Joseph and Petosky, and later altered so that they could be self-administered in a group situation at Warren Woods. It was noted that if proper direction and supervision is given, all six sub-sections of the questionnaire can be effectively self-administered. This procedure was found to be not only a time-saving device, but also a means of providing anonymity for the subject.

The most recent administration of the questionnaire was completed during the month of August 1965. At that time, two summer institutions at

Michigan State University were tested. Included were the American History Institute, which had an enrollment of about forty high school teachers, and the Geography Institute, with an enrollment of about forty-five teachers. In each instance, the entire questionnaire was presented as a self-administered instrument in the group. The same degree of success was noted as was found in Warren Woods.

The teachers participating in the American History Institute were used as a sample of the total population tested for the purpose of performing a quantitative analysis of their responses. After these responses were coded and punched on data cards, a program was selected to calculate frequency distributions and percentages of the several alternatives. The Control Data 3600 was utilized for this purpose. The findings relative to this sample were reported.

CONTINUATION OF THE RESEARCH

The Social Science Teaching Institute is seeking funds to conduct a nationwide survey, using the instruments that have been developed in this study. If the study is funded, the field work will be conducted by a survey organization that is staffed for sampling and interviewing on a national basis.

A COMPARATIVE CULTURES APPROACH TO TEACHING VOCATIONAL AND CITIZENSHIP EDUCATION IN THE NINTH GRADE SOCIAL STUDIES

Wilbur B. Brookover, Director
Social Science Teaching Institute
Michigan State University

A COMPARATIVE CULTURES APPROACH TO TEACHING VOCATIONAL AND CITIZENSHIP EDUCATION IN 9TH GRADE SOCIAL STUDIES

During the 1964-65 academic school year the Institute for Social Science Teaching at Michigan State University, under the directorship of Dr. Wilbur B. Brookover, carried out a pilot project at Pattengill Junior High School in Lansing, Michigan to determine the feasibility of further research in using a comparative cultures approach to teach vocational and citizenship education in the public secondary schools.

In cooperation with Pattengill Junior High School, Mrs. Kay Howell, project teacher, taught two classes using the experimental approach and two classes using the standard curriculum in the school system as control groups. Reading materials, films, and transportation for field trips were purchased or rented with funds made available by the Social Science Education Consortium. Facilities and funds for an evaluation of the project were made available by the Institute for Social Science Teaching.

The experimental approach consisted of a comparative cultures framework to provide a meaningful perspective to the study of man in his work and citizen roles. Within this framework, basic social science concepts were taught, with an emphasis placed upon self-understanding and the nature of social organization. The students in the control classes studied the traditional course established by the school system, which included a direct and prescribed study of occupations and a structural study of local, state and federal government.

Various attitudinal and informational instruments were employed to evaluate the effectiveness of the two approaches. While these measurements did not indicate significant differences between the experimental and control groups, the interest, enthusiasm, and achievement of the students who studied the experimental materials and the positive observational evaluation of the teacher and several social scientists seemed to warrant further exploration.

Funds have been secured from the U.S. Office of Education to evaluate a repeated pilot project, using the design described above, during the 1965-66 academic school year.

CLASSROOM RESEARCH ON SUBGROUP EXPERIENCES IN A U.S. HISTORY CLASS

Keith Elkins
Martha Porter
University of Chicago

PART I

SUBGROUP EXPERIENCE IN TWO UNITED STATES HISTORY CLASSES: ORGANIZATION OF STUDENT EFFORT AND THE PRODUCTION OF IDEAS

Keith Elkins

TABLE OF CONTENTS

Background and Purpose 1
Procedure 4
Examination and Interpretation 8
Epilogue 18
Notes 20
Guide for Group Activity 24

BACKGROUND AND PURPOSE

In a prior study done under the auspices of the Social Science Education Consortium,[1] the researchers were interested in investigating the effects of learning by inquiry in the social studies classroom.[2] They began by listing some of the assumptions underlying the model of inquiry for teaching developed by Thelen:[3] "...that participation in subgroups gives students an opportunity to try out (hence clarify) their ideas'...helps prepare students to listen to the ideas of others'...and increases confidence.... That through such interaction, and with increased confidence, the student acquires: a) willingness and ability to formulate and organize ideas; b) a sense of commitment to the subject under inquiry....And he develops a 'readiness' to make "a" and "b" above manifest in class discussion, written reports, oral reports, or other (classroom tasks)."

The researchers hypothesized that "...participation in small groups tends to increase a student's (confidence), regardless of ability." They found confirmation for this hypothesis. In addition they found evidence that subgroup interaction increased student interest in working with friends. There was also a greater generation of both new ideas and a desire to get more information on the assigned topic.

Of these discoveries the generation of new ideas as a result of subgroup participation was a provocative one. Subgroup activity is characterized by freedom from teacher punishment through criticism, implicit or explicit, of student contributions. Perhaps students in subgroup activities will, as a result of that freedom, generate their own ideas for investigation and exhibit a greater commitment to that activity. If this assumption is correct, and the materials for confrontation are carefully selected, participation in the subgroup would result in an increase in confidence and hence a greater "readiness" to work.

Building on the fundamental assumption that activity in the subgroup is a transition between private, individual investigation of a problematic state and public, class-wide investigation of a general problem, the researchers designed an experiment to study systematically the effects of three ways of organizing student effort in the classroom. On the premise that working individually, in subgroups, and in full-class session neatly comprised the transition mentioned above, the researchers studied the relationships between these three ways of organizing student effort and the generation of student ideas for later investigation, a requirement they made common to all three conditions. They also studied the relationships between the three ways of organizing student effort and the satisfaction the students expressed in having been so organized. This, they felt, would allow them to draw conclusions about a necessary connection between a subgroup's provision of gratification and its stimulation of ideas.

Over a period of twelve calendar days (eight school days spanning a four-day Thanksgiving holiday) the researchers gathered data in two prefreshman U. S. history classes taught by Mr. John Patrick in the University of Chicago Laboratory School.[4]

The two classes, according to the teacher and the researchers who observed them in action, were different. Class A, which meets at 8:55 a.m., (immediately following on one day a week their homeroom period in the same room with the same teacher) was composed of nine girls and twelve boys. It had fewer students the teacher called "talented." Among the students in this class were four who read at the (Lab school) fourth-grade level, and only two who read at the level at which most in the other class read. Five students in this class were new to the Lab school this year, and two were repeating their prefreshman year. The rest fall into a loosely defined category one might call "Lab School average." Members of Class A asked few questions when assignments were made to the whole class; they asked them individually as unanticipated difficulties arose during the course of the class period, or in concert as unexpected implications became clear at the end of a class period. Class A, with fewer students speaking impulsively or compulsively, was more decorous than the other class. They "cover the ground" faster: twice during the time of the experiment they pulled ahead of the other class by as much as a full period. According to comments by the teacher, and observations by the experimenters, members of Class A "listen to each other" and "build" on each other's comments. They argued with each other and the teacher less than did those in the other class. In short, Class A, better known to the teacher and easier to work with, was quieter, more deliberate, more stable, more dependent, and less able than the other class.

The other class, called Class E, met the fifth period of the day, from 12:10 to 12:50, and was composed of nine girls and fourteen boys. It had a majority of students the teacher called "talented." There were fewer students who fell into the loosely defined "Lab School average" category and none who read at the (Lab School) fourth-grade level. Class E asked many questions at the time assignments were made to the whole class but fewer than Class A once the students began the assignment. Class E was restive: although there were four in this class who never spoke at all, the rest never seemed to say all they wanted to. Members of Class E, when called on, spoke as if no one had spoken before them; that is, each made his point without reference to previous comments. Class E, then, was noisier, more impulsive, more volatile, more competitive, and more able than Class A.

PROCEDURE AND DESIGN

With a tape recorder and two questionnaires,* the researchers observed both classes on three consecutive school days before the Thanksgiving holiday and five days after. The post-meeting reaction questionnaire (PMR) was designed to measure students' satisfaction with classroom activities.[5] The idea questionnaire was designed to trace the origin in space and time of the students' ideas for further investigation.[6] The tape recordings were intended to provide, if necessary, information concerning: a) pertinent teacher or student verbal behavior; b) teacher comments, whether supportive or punitive, regarding student behavior or class performance; and c) student questions regarding the nature of the assignment.

During the first few minutes of the first day, as a part of his introduction to the unit on political aspects of U. S. territorial expansion after the colonial period, the teacher explained in some detail the idea questionnaire: what it was for and how it was to be used. Then he asked if there were any questions and answered those that were asked. The plan, he said, was that the students would first spend a few class periods working individually, reading No Other White Men[7] and recording ideas that occurred to them on the idea questionnaire, which they were to keep with them continuously until asked to hand it in. Later on during the time devoted to the unit, he explained, they would select one of their recorded ideas, do documentary research in relation to it, and write the results in an essay. In addition to the rest of the first day, Class A spent all of the next, and Class B most of the next two days reading the novel. At the end of the first and second days, the PMR was administered to both classes, but to neither class at the end of the third.[8] Both classes were reminded several times during this period to keep a running account of their ideas as they occurred, even during the holiday.

---

* Reproductions of the questionnaires are appended.

On the following Monday, by which time students were to have finished No Other White Men, both classes found their classroom arranged for subgroup activity: tables had been placed to accommodate groups of up to five persons. Without instruction, class members arranged themselves in groups of three to five members.[9] The teacher then distributed copies of the instructions for the work to be done in the subgroups: they were to select a chairman and recorder and then list all the questions they could think of that met the standards included in the instructions that had been given them.* At the end of the period they were again reminded of the idea questionnaire, told that they could add ideas suggested to them by their subgroup's list of questions, and then administered the PMR.

The fifth, sixth, and seventh days were devoted in whole or in part to a critical analysis in full-class discussion of the questions generated in the subgroups the previous day. During the first few minutes of the fifth day students were helped to recognize that the standards used in the subgroups' listing of questions could be used in full-class evaluation of all questions, which the teacher had compiled into a master list overnight. Both classes then considered whether the questions on their master list should be accepted, changed and then accepted, or rejected as unsalvageable. At the end of the few minutes devoted to this activity on the fifth day, the teacher assigned the students, as homework the task of continuing the job begun in class, i.e., evaluating the remaining questions and recording suggested changes; but he did not administer the PMR to them.[10] At the end of the sixth day, which was wholly devoted to the critical analysis of the questions, the PMR was administered to both classes. Several times during the sixth and seventh days (the latter devoted to the same activity), the students were told that they could add to their own idea questionnaires, ideas suggested to them by the questions on the approved master list. Toward the end of the seventh day, they were told to select one of the ideas listed on their own idea questionnaire, label it as the one selected, and hand in the questionnaire. Then the PMR was administered.

---

* A reproduction of the instruction sheet is appended.

On the eighth day of data-gathering, the teacher spent a few minutes in each class eliciting from the students speculations about what their next step should be. He then launched them into individual research, calling attention to primary and secondary sources in the room as well as mentioning the resources of the library. At the end of the period he administered the PMR once again.

The students in each class, then, worked under three conditions of classroom organization of student effort: individually, in subgroups, and in full-class session. These three conditions - or treatments - constituted the independent variable in this study. General satisfaction, as measured by the PMR, was intended as one of the dependent variables. Production of ideas, as recorded on the idea questionnaire, is the other dependent variable.

The design of the study lends itself to two general questions: What are the differences in general satisfaction, as reported on the PMR, among the several conditions? What are the differences in production of ideas, as recorded on the idea questionnaire, among the several conditions? Because the differences in dependent variable measures were also discovered to be a function of the observed differences between classes, these questions will be rephrased for investigation.

1. What are the differences in general satisfaction between classes when students work individually?

2. What are the differences in general satisfaction between classes when students work in subgroups?

3. What are the differences in general satisfaction between classes when students work in full-class session?

4. What are the differences in production of ideas between classes when students work in subgroups?

5. What are the differences in production of ideas between classes when students work individually?

6. What are the differences in production of ideas between classes when students work in full-class session?

7. What are the differences in general satisfaction and production of ideas among the several conditions?

EXAMINATION AND INTERPRETATION OF DATA

This study was primarily designed to show relationships among the three conditions of organization of student effort and the dependent variables, general satisfaction and production of ideas. Because of the uncontrolled effect on dependent variable measures by the observed differences between classes, however, the data will be examined for answers to the following general questions: What is the nature of the pre-existent difference between classes? What effect does this difference, in combination with treatment, have on the production of ideas? With this in mind, one may examine Table 1 below for answers to questions 1, 2, and 3 in the preceding section.

TABLE 1.

POSITIVE RESPONSES MADE BY STUDENTS IN CLASS A AND CLASS B TO FIVE QUESTIONS ON THE POST-MEETING REACTION QUESTIONNAIRE (PMR)

DAY	ACTIVITY	ORGANIZATION OF STUDENT EFFORT	CLASS	SATISFACTION PMR QUESTIONS*				
				2	3	4	5	6
1	Intro to Unit Reading of Book	Individual	A	75	100	100	95	90
			B	75	100	91	71	63
2	Reading of Book	Individual	A	100	100	100	100	90
			B	68	100	100	86	75
4	Generation of Questions	Subgroups	A	62	86	76	71	81
			B	81	86	90	86	86
6	Evaluation of Questions Generated	Full-class	A	89	95	79	84	79
			B	22	24	61	44	61
7	Evaluation of Questions and Selection of Idea	Full-class	A	53	100	100	83	83
			B	81	100	67	76	67
8	Beginning of Investigation	Individual	A	63	100	88	88	88
			B	57	100	86	62	71

* PMR QUESTIONS:

2. How did you feel the activity was today?
3. How clearly did you understand what the activity was all about?
4. How satisfied were you with your participation in the activity?
5. During how much of the time did you feel that the opportunity existed for you to participate in the activity?
6. When you participated, how often did you say or do what you really wanted to?

Table 1 shows: 1) the days on which the PMR was administered; 2) the nature of the activity engaged in by both classes on each of these days; 3) the way student effort was organized on each day; 4) the class; and 5) the percentage of positive responses, in each class separately, to the questions asked on the PMR.[11]

The first and fundamental observation to be made in view of the data in Table 1 is that the two classes seem to respond differently to questions on the PMR. Rank order correlation coefficients between the classes' percentages of positive responses to each question on the PMR were computed with the following results:

PMR QUESTION	rhe
2	-.47
3	.95
4	.49
5	.04
6	.16

Only one of these coefficients, that representing the classes' understanding of what the daily activities were all about, is significant at the .05 level. None of the other coefficients approaches significance, supporting the observation that the two classes seem to respond differently to the PMR questions.

In response to a global indicator of satisfaction with the activities engaged in day by day (PMR question 2), the two classes showed a tendency to respond positively on altogether different days, possibly to altogether different ways of organizing student effort. In keeping with this tendency, it will be noted in Table 1, Class A moved from a percentage of positive response approximately equal to that of Class E on day 1, (best characterized relative to the following day by confusion as the new unit was introduced) to its highest percentage of positive response to this question on day 2, which was devoted to a continuation of the activity introduced the previous day. Class E, on the other hand, moved hardly at all. It should be noted that while day 2 was the day of Class A's highest percentage of positive response to this question when students worked alone, Class E attained its highest percentages of positive response on day 4, when students worked in subgroups without teacher intervention, and on day 7, students engaged in a full-class discussion involving much pupil-pupil interaction.

In the interests of coherence, consideration of the data representing responses to PMR question 3 will be postponed, and the data concerning PMR question 4 will be discussed. Two helpful observations may be educed from the responses to PMR question 4: How satisfied were you with your participation in the activity? First, in response to day 4, the subgroup day, Class A manifested less satisfaction with their participation - absolutely - than did Class E, a difference particularly noticeable in view of Class E's observable tendency to use all scales more negatively. This observation, along with the implications of those in the paragraph above, suggests that Class E, far more than Class A, preferred free-wheeling pupil-pupil interaction. The second observation to be educed adds more. In response to days 6 and 7, devoted to pupil-pupil interaction leavened by teacher direction, students in Class A manifested far more satisfaction with their participation than did those in Class E. These observations, together with those made in connection with how the students felt the activity was each day, suggest rather clearly an interpretation consonant with the observed differences between classes: Class E, more able and impulsive than Class A, derived greater satisfaction than did Class A from activities characterized by an abundance of student interaction and an absence of teacher direction.

Conclusions suggested by examining responses to PMR question 5, (During how much of the time did you feel the opportunity existed for you to participate in the activity?) were in keeping with this interpretation. In this column the observer's eye falls first on the percentages of positive responses made on day 4, the subgroup day. Class A manifested an abrupt decline in its estimation of opportunities for participation on this day. Class E, on the other hand, showed as many positive responses on this day as on day 2, the other day showing high positive response. More to the point, however, is the observation that in the percentages of positive responses to this question, this day ranked last for Class A and first for Class E (along with day 2). These observations and comparisons made between the remaining figures for the two classes in this column, lend themselves to interpretation as follows: Generally when all is ordered - when the risk is lowest - Class A found the opportunity to participate; only when all is free - when the risk is highest - did Class E find the greatest opportunity to participate.

Support for an interpretation of this kind is found in the column under PMR question 6: When you participated, how often did you do or say what you really wanted to? It is noted first that members of Class A did or said what they really wanted to relatively less often on all days devoted to discussion, whether in subgroups or in full-class session, than they did on days devoted to individual work. That is, on days when there was least opportunity to do or say anything at all to anyone else (days 1 and 2), they reported most often that they did or said what they really wanted to. Members of Class E, on the other hand, reported most often that they did or said what they really wanted to on day 4, the subgroup day.

In response to a global question concerning how they felt the activity was each day, students in the two classes showed a slight tendency to respond positively on altogether different days, sometimes to altogether different ways of organizing student effort. To questions having to do with their opportunities to participate as they really wanted to, students in the two classes tend to respond in absolutely unrelated ways. To another question concerning their satisfaction with their participation, the classes showed a slight tendency to respond positively on the same days, which may be seen as reflecting the class members' satisfaction with themselves as well as an objective assessment of their participation's worth to the class as a whole. All four of these questions tapped a feeling of responsiveness to what went on in the classroom day by day, also elicited are responses that seem quite clearly to differentiate between the classes. Together those provide the substance for interpretations.

An interpretation consistent with all the suggestions made above, and explicative of the differences observed between the classes, can be made in terms relating to a belief in oneself and one's abilities. In this connection Class E responded more positively - absolutely - than did Class A to questions on day 4, when the teacher, except for prearranging tables, provided virtually no direction over what the students did. It will also be noted that Class A registered either its lowest (questions 4 and 5) or second-lowest (questions 2 and 6) daily percentages on day 4, the subgroup day, while Class E registered its highest percentages in response to questions 2, 5, and 6, and a high percentage in response to question 4 on that day.

These observations, along with all the others, suggested the following interpretation of the differences between classes as manifested in the post-meeting reaction questionnaire, i.e., (PMR). In the absence of maintained authoritative structure, there were no clear-cut expectations according to which members of Class A can prejudge the acceptability of their participation; there were only the unpredictable, hence threatening, reactions of other students. Constrained - inhibited - in fear of the consequences of participation in the absence of adult control, they reported less general satisfaction and find fewer opportunities to participate. Members of Class E, on the other hand, suffered neither the fear nor the consequent constraint of Class A members, but instead, felt only the impulse to self-expression. And when their impulses were restrained by the exercise of classroom authority, they reported less general satisfaction and find fewer opportunities to participate.

Two considerations of the data in Table 1 remain: the precipitant "drop" in the percentages of positive responses made by Class E to all questions on day 6; and the disconcerting equality between the percentages of positive responses made by both classes to question 3 day by day.

The drop in Class E's percentages of positive responses to all five questions on day 6 was coincident with disciplinary comments made by the teacher on that day, both to individuals in the class and the class as a whole. This coincidence lead to two observations. The drop in reported satisfaction and understanding on a day of disciplinary comment - scolding, if you will - demonstrated that the PMR successfully recorded changes in classroom climate and consequent student reaction. Second, the drop demonstrated rather dramatically that the effect of disciplinary comments in the classroom was not limited to the elimination of inappropriate behavior. One might ask, for example, what the relationship was between such disciplinary comments and students' capacity to comprehend the nature of subject-matter problems, or solutions, presented to them. What were the effects of such comments when directed at individuals and when directed at the class as a whole? Were students not singled out affected by such comments directed at others in the classroom? How? These questions, though provocative, were tangential to the present study.

In connection with the observation that both classes seem to have understood remarkably and equally well what their daily activities were about (PMR question 3) - a tribute to their teacher that makes the task of interpretation more difficult - one should note the "dip" in such understanding on day 4, the subgroup day. The dip may be explained in terms relating to the nature of the activity on that day. Gathering in subgroups of three to five members around prearranged tables, the students were given copies of instructions to be followed and told to go to work. The teacher parried questions about what was to be done by referring students to the dittoed instructions. The students, then, had to proceed as best they could without further help or reassurance from the teacher. This explanation raised some additional tangential speculation: What were the effects on student understanding when instructions were given personally, by the teacher for example, and when they were given impersonally on a piece of paper perhaps?

To be remembered here, however, is that except for day 6 as described above the two classes under consideration exhibited no perceptible difference in understanding what their daily activities were all about. This significant similarity stands in sharp contrast to the differences between classes in their responses to other PMR questions, which had to do generally with how they felt about the activity and their participation in it, and suggests that question 3 may have been tapping something quite different from that which was tapped by the other questions. That is, while the other four questions involve much the same general thing, satisfaction, question 3 did not involve anything that could be made to look like an index to satisfaction.

While the other questions elicited responses exclusively indexing affective reactions to the daily activity, question 3 elicited responses that had as much to do with cognitive reactions as they had with affective reactions. Though susceptible to change as a function of negative affective reactions, as on day 6, when preoccupation with whatever feelings resulted from the teacher's criticism may have precluded understanding of what the activity was all about, this question more directly tapped the students' understanding of what the teacher expected them to accomplish each day. That is, it measured the extent to which they understood what was required of them from having engaged in the activity. This can explain the remarkable similarity of responses to this question between classes, while on the other hand they responded so differently on measures of general satisfaction?

In the preceding discussion the PMR measures of satisfaction, incorporated in the original design of the study as a dependent variable, have been used as an index to the nature of differences that existed between the two classes prior to treatment. Employed so, the PMR has been used as if it were a measure of an independent variable. This is as it should have been; for it is clear that whatever the dependent variable is, it depends on both the way student effort was organized and the differences already existent between classes. It is now as if one were studying the differences in the production of ideas under the several conditions of organization of student effort and the extent to which the classes can be said to feel confident in their ability to participate when so organized.

Some emendation is required before data on the production of ideas can be considered. Class A produced the second-largest (23%), Class E the largest (32%), percentage of their total production of ideas on day 7. This efflorescence of creativity can be attributed to an announcement by the teacher on that day that students were to select one idea for investigation, label that idea on the idea questionnaire as the one selected, and hand in the questionnaire. Though such a finding provokes interesting and perhaps relevant questions about the relative effectuality of "internal" and "external" motivation of students, it cannot be used. Because of the uncontrolled, hence incalculable, effect of such a requirement in the context of the study as designed, data for day 7 will be left unconsidered. Also left unconsidered is the data for day 8, since the ideas recorded on the day (after students had met the requirement mentioned above) cannot be related to any one of the three conditions under study. For the same reason, data for day 5, devoted to an altogether unrelated activity, will not be considered. Finally, because Class A met for only a part of the period on the third day and then left for an assembly, while Class E met for the whole period on that day, data for day 3 will have to be deleted as well.

These deletions leave data tabulated as follows:

TABLE 2

POSITIVE PMR RESPONSES AND NUMBER AND PERCENTAGE OF IDEAS PROCUDED BY STUDENTS IN CLASS A AND CLASS E

DAY	ACTIVITY	ORGANIZATION OF STUDENT EFFORT	CLASS	SATISFACTION PMR QUESTIONS 2	3	4	5	6	PRODUCTION OF IDEAS No.	%
1	Intro to Unit	Individual	A	75	100	100	95	90	7	42
	Reading of Book		E	73	100	91	71	63	6	22
2	Reading of Book	Individual	A	100	100	100	100	90	3	18
			E	68	100	100	86	75	2	7
4	Generation of Questions	Subgroups	A	62	86	76	71	81	6	35
			E	81	86	90	96	86	12	44
6	Evaluation of Questions Generated	Full class	A	89	95	79	84	79	1	6
			E	22	24	61	44	61	7	26

Table 2 shows: 1) the day; 2) the activity engaged in by both classes on each day; 3) the way student effort was organized on each day; 4) the class; 5) the percentage of positive responses to each of the PMR questions on each day; 6) the number of ideas each class produced each day; and 7) the daily percentage of the total number of ideas each class produced on all four days.

Table 2 shows that Class A produced the largest number of ideas on day 1, the day the unit was introduced and requirements were explained before individual work began. Class E, on the other hand, produced the largest number of ideas on day 4, the subgroup day. These observations seem consistent with the previously discussed differences between classes. Class A shows a tendency to produce more ideas in response to expectations clearly explained and structure authoritatively imposed. Class E produces more ideas when the restraints imposed by such structure are absent.

It is instructive to note, however, that the difference between the number of ideas produced on days 1 and 4 in Class A is less than that between days 4 and 2 and days 4 and 6. That is, despite the relative dearth of satisfaction derived from day 4, Class A did produce a number of ideas nearly equal to that produced on the more satisfying day 1, and many more than on the more satisfying days 2 and 6. This observation makes possible a suggestion that members of Class A, even though relatively unsatisfied with day 4 and their participation in the activity that day, find themselves stimulated to the production of ideas on that day.

Using satisfaction as measured by the PMR as a dependent variable, this study offers some support for the hypothesis that participation in subgroups tends to facilitate the generation of new ideas, regardless of reported satisfaction. The hypothesis requires further testing, however, for as the present study reveals, the relationship is affected to an unknown degree, and in an unknown way, by quality differences between the two classes studied here.

The design of this study did not take into account the observed differences between classes. It should have, for it is clear that the relationship between the way student effort is organized and the production of ideas was affected by that characteristic that differentiated the two classes prior to treatment. The design of the study did not sufficiently make comparable the conditions under study, nor did it include provisions for precise data collection. It should have, for it is equally clear that much that might have been learned has been lost with the data necessarily deleted.

What can be concluded? It now seems clear that any general conclusion concerning subgroup production would need to specify both mode of organization and relevant characteristics of the individuals in the groups - perhaps the nature of their talk as well. But there is some evidence here to indicate that participation in subgroups gave students in both classes an opportunity to grasp conceptually and clarify verbally the nature of their private experiences with a book read individually. For Class E there is the clear suggestion that production of ideas covaries with freedom of participation. That is, more ideas are produced when Class E's effort is organized with a high degree of pupil-pupil interaction and with little or no teacher control. Class A, however, shows a tendency to produce more ideas when pupil-pupil interaction is at a minimum, teacher control at a maximum. But Class A produced many ideas on day 4 as well, showing also - but less clearly than Class E - a tendency to produce ideas when pupil-pupil interaction is high and teacher control low.

These conclusions, as well as earlier interpretations, suggest that differences between classes could well be conceptualized in terms of group standards: cooperation in Class A, for example, and competition in Class E. And they could be simultaneously considered in terms of preponderating individual characteristics: self-confidence, for example, low in Class A and high in Class E. Doing so - that is, making hypotheses about the nature of the differences between groups - allows one then to consider the effect of group and personal conditions in combination on whatever ends he hopes to achieve. For the practitioner, this means changing tactics on the basis of continuing observation - observation that makes obsolescent the practices that made it possible. For the theoretician, this means changing strategy on the basis of experimental contingency - contingency that makes superstitious the beliefs that made it viable. Both methods and theories are "right" only as long as it takes to gather information clearly suggesting their successors.

EPILOGUE

This study has made clear the need for identifying the characteristic that varies with different ways of organizing student effort in the classroom. It is suggested that what varied as students worked under the several conditions of this study was the agency exercising control. Though in all three conditions the teacher exercised control over what the students were expected to accomplish, the control of how students were to behave to get it accomplished changed hands, reverting on day 4, for example, to another agency - the subgroup. That is, the teacher relinquished his control of student behavior on day 4 to whatever mechanisms operate in the small group to control behavior therein.

To accomplish a required task, students in the classroom may be governed by three possible agencies: the individual, the subgroup, and the teacher, although this study did not use all three in their pure form. For example, the teacher may make clear the nature of an assignment - explain the task to be accomplished - and say no more. This *would* permit each student to choose his own work methods. This condition requires that the teacher at the same time somehow neutralize any residuum of expectation regarding behavior from preceding days. Or, he may prearrange the tables as was done in this study, make clear the nature of the task to be accomplished, and say no more, allowing the mechanisms operative in a small group to determine students' work methods. Or, after making clear the nature of the task to be accomplished, he may himself control the way students behave to get the job done by such means as a class discussion, even if "indirectly" controlled.

This study also made clear the need for controlling differences among students whose efforts are to be organized. A way to do this is to offer the students a choice, such as allowing them to choose the organizational mode they preferred to work in. Based in part on how each student perceives himself and his ability to profit from participation in the alternatives offered, such a choice would then be a function of the differences among students, hence providing the experimenter with the necessary control over such differences. A second measure, that of predispositions relative to control, could be used as a check on the direction of choice, hence validating overt choice as a function of differences among choosers.

What is suggested is a study in which control and preference, as independent variables, are invoked in such a way that the effects of those variables in combination could be studied for their effects on such desirable ends as satisfaction for the student and production of ideas.

NOTES

1. This study was begun with the counsel of Herbert A. Thelen, Professor of Education, The University of Chicago, and principal investigator under the grant from SSEC. It was completed with the cooperation and help of Mr. John Patrick, teacher in The University of Chicago Laboratory Schools, and Miss Sandra Becich, student in The University of Chicago College.

2. The earlier study ("Subgroup Experience in Two United States History Classes: Organization of Student Effort and the Development of Confidence") was carried out and written by Martha Porter.

3. Both studies, concerned with answering in methodological terms questions about social studies education, were designed to test assumptions underlying Herbert A. Thelen's model of inquiry for teaching. This model pictures education by inquiry in phases: 1) confrontation, with material selected and arranged for arousal in the student of a "problematic state"; 2) emergence into awareness, of the nature of the problem induced; 3) collection of testimony, from students, preparatory to the formulation of problems for investigation; 4) conducting of investigation, toward solution of the problems formulated; 5) organization, of findings, and report; and 6) reformulation, of issues joined by a comparison of findings and prior knowledge.

4. In The University of Chicago Laboratory Schools, there is no eighth grade. Students go from the seventh grade to their freshman year in high school; hence the adjective prefreshman.

5. The post-meeting reaction questionnaire, a reproduction of which follows these notes, included questions students usually did not answer. For this reason, questions 7 and 8 were not used.

6. A reproduction of the idea questionnaire follows these notes. Because of the questionnaire's complexity - and the confusion caused by its insufficiency for use as days were subtracted from and added to the experiment's calendar - students were consistently able only to report the day on which their ideas occurred to them. Even this required further explanation during the latter days of the experiment, since spaces on the questionnaire did not correspond any longer to the calendar day.

7. This novel was intended as a confrontation used at the beginning of an inquiry into the territorial expansion of the United States after the Revolutionary War. No Other White Men was written by Julia Davis.

8. On day 3, Class A spent only a few minutes in the classroom before leaving for a school-wide assembly.

9. Because tables had been so prearranged and students told to seat themselves as they wished during the earlier experiment, no instruction had to be given on day 4. Students arranged themselves in subgroups according to their own preferences without comment from the teacher. This voluntary association in subgroups adds a dimension to this experiment not studied. If it can be assumed, for example, that the groups were formed as they might have been on the basis of a sociometric instrument, one might ask what effects this voluntary association had on the measures of satisfaction and idea production.

10. The PMR was not administered on day 5 because each class had a visitor who spoke for the remainder of the period on an unrelated topic.

11. Days 3 and 5 have been deleted from Table 1: day 3 because Class A met for only a part of the period while Class E met for the whole period; day 5 because it was devoted to an altogether unrelated activity in both classes.

Positive response is defined as one appearing in either of the two spaces farthest to the right in both four-choice and five-choice questions. See the reproduction of the PMR on the following page.

Name ______________________ Teacher ______________________

Period ______________________ Date ______________________

1. Today's activity was ___ individual work ___ subgroup discussion ___ class discussion ___ other.

2. How did you feel the activity was today?

   no good   poor   all right   good   excellent

3. How clearly did you understand what the activity was all about?

   not at all   vaguely   pretty well   perfectly

4. How satisfied were you with your participation in the activity?

   really disappointed or discouraged   rather disappointed   fairly well satisfied   really delighted and pleased

5. During how much of the time did you feel that the opportunity existed for you to participate in the activity?

   never   rarely   some of the time   most of the time   always

6. When you participated, how often did you do or say what you really wanted to?

   never   rarely   some of the time   most of the time   always

7. What was the best thing that happened?

   ____

   ____

8. What was the worst thing that happened?

   ____

   ____

GUIDE FOR SUBGROUP ACTIVITY

Purpose of Today's Subgroup Activity - To compile a list of acceptable questions that have something to do with the topic, Extending United States Government to New Territorial Possessions.

Instructions for Today's Subgroup Activity

1. Each subgroup should choose a chairman and a recorder. It is the chairman's job to start discussion and to keep the discussion relevant.

   It is the recorder's job to keep a written record of the questions that the group selects as acceptable. This list of acceptable questions should be handed in to the teacher at the end of the period. The names of all group members should be signed under the list of questions.

2. Following are some standards that may help you to decide which questions are acceptable and which questions are not acceptable.

   a. The question must be relevant.

   b. The question must not be too broad in scope. For example, the question, how did the United States acquire new territorial possessions, is too broad. By contrast the question, "How did the United States acquire the Oregon territory?" is more narrow and focuses on only one aspect of the broad question of United States territorial expansion.

   c. The question must be one to which an answer can be easily and readily found. For example, the question, "How did the United States acquire the Oregon territory?" can be answered readily and easily through reading and interpreting many available primary and secondary sources. By contrast, the question, "Would the United States have retained possession of the Louisiana territory if all the Indian tribes had banded together in a confederation, allied with hostile European nations, to fight the United States?" is not capable of being answered exactly and is inappropriate.

   d. The question must be precise and easily understandable, not vague and incoherent.

Name ______________ Date ________ Teacher ____________ Period ________

APPEAL

5 Very much want to explore
4 Looks interesting--am not sure
3 So-so
2 No longer so interesting
1 Guess I'll drop it

SOURCE

Where did the idea come from?

N No Other White Men
OR Other reading
TS Talking with students
TT Talking with teacher
TP Talking with another person
I It just came to me
FT From the teacher
FS From another student
FP From another person
FM From within myself

TIME

When did the idea occur to you?

DC During class
OC Outside of class
RA While reading the assignment
TA While thinking about the assignment
DO While doing something else
TO While thinking about something else
R While just relaxing

	Monday	Tuesday	Wednesday	Weekend	Monday	Tuesday
Ideas to explore for my essay:	Appeal Source Time	Appeal Source Time	Appeal Source Time	Appeal Source Time	Appeal Source Time	Appeal Source Time

PART II

SUBGROUP EXPERIENCE IN TWO UNITED STATES HISTORY CLASSES: ORGANIZATION OF STUDENT EFFORT AND THE DEVELOPMENT OF READINESS

Martha Porter and Keith Elkins

TABLE OF CONTENTS

Background and Purpose 1

Procedure 3

Findings 6

General Conclusions 14

Notes 15

"Readiness" Questionnaire 17

Post-meeting Reaction Sheet (PMR) 19

BACKGROUND AND PURPOSE[1]

An important segment of Thelen's model of inquiry for teaching calls for interaction of students in subgroups.[2] The fundamental assumption of the researchers in this study was that the subgroup is a milieu which provides for transition from individual, private concerns to understanding of and public commitment to topics to be investigated by the whole class. Collateral assumptions were that participation in self-chosen subgroups 1) gives students an opportunity to try out, hence clarify, their ideas; 2) helps prepare them to listen to the ideas of others; and 3) increases their confidence. Further assumptions were that through such participation, and with increased confidence, the students tend to acquire the willingness and ability to formulate and organize ideas, and a sense of commitment to the subject under inquiry. Concomitantly, it was assumed, that students would develop a "readiness" to make these acquisitions manifest in class discussion, written reports, oral reports, or other activities which they had selected or had been assigned to carry out.

The researchers were concerned in this experiment with the development of readiness to undertake the writing of an essay on a topic assigned by the teacher. They studied the relationship between student participation under two modes of classroom organization of effort, and the development of readiness as reported by the students participating. They also studied the extent to which students reported satisfaction after having worked in subgroups.

The experiment considered here covers two consecutive class periods during October, 1964. Two prefreshman U. S. history classes were used.[3 and 4] The first of these classes, Class A, had 21 members (9 girls, 12 boys) and met daily from 8:55 am to 9:40 am. The second, Class B, had 23 members (9 girls, 14 boys) and met daily from 12:10 pm to 12:55 pm. The work of both classes - reading, topics for discussion, etc. - was parallel.

During the course of data analysis, indications that there might be marked differences between Class A and Class B were discovered. Conversation with Mr. Patrick confirmed the suspicion that the researchers were considering two distinct populations. According to Mr. Patrick, Class A had some students with lower IQ's and very few with exceedingly high IQ's. Four or five students were taking elementary school arithmetic. Six students were new to the Lab school. Class A was not very verbal and tended to be slightly passive. The class also tended to be homogeneous; that is, there were no visible factions or cliques.

Class B presented a different picture. Class B contained a number of students with very high IQ's and no students with low IQ's. Six or seven students were taking advanced math. None of the students were new to the Lab school, and students in this class had formed various factions and cliques. These students were very verbal and apparently eager to "shine" before their classmates and the teacher.

PROCEDURE

Several days prior to their meeting in subgroups, on the first of the two days covered by the experiment, students in both classes received a packet of documents pertaining to the American Rebellion.* From a clearly worded, dittoed study guide which accompanied the documents and from instructions given orally in class, the students knew that they were to begin using these documents as primary sources in preparation of an essay on the American Rebellion. This was to be written after the completion of the experiment.

On Tuesday morning, October 27, students in both classes entered their regular classroom, which had been prearranged for subgroup work by placement of chairs around seven small tables.[5] Class A divided very symmetrically into seven groups of three: four trios of boys, three of girls. Class B broke into seven groups of different size. The boys formed one quartet, two trios, and one duet; the girls formed two quartets. The seventh group in Class B contained two boys and a girl who had come in at the last minute and rather reluctantly joined the boys.[6]

As soon as the students were seated around their tables and quiet, they were given a questionnaire designed to elicit responses having generally to do with readiness to work in preparation for the forthcoming essay on a topic assigned by the teacher.** After the questionnaires had been collected,[7] students in both classes received almost identical instructions. Mr. Patrick told the students that they were to consider the documents in two steps. Step 1 was to examine each document individually for answers to the following question: What does each of the primary sources (i.e., the documents in the packet) tell you about why certain British colonies in North America rebelled against the mother country? Step 2 was to examine the documents together to see how they related to each other and how they provided more general answers to the larger question: What causes rebellion against government?

---

* A questionnaire which lists these documents is appended, p. 19.

** A reproduction of that questionnaire is appended, pp. 18-19.

The students were then told that working in subgroups would give them an opportunity to exchange ideas, to trade information, and to help one another. They were also given the reassurance that some of the groups might not get to step 2. Immediately following these instructions, the students began to work, conversing quietly among themselves. Mr. Patrick circulated through the room, stopping to assist the several subgroups, mostly helping with step 2 - seeing the relationships among the various documents. Students in Class A spent about 20 minutes in subgroups; students in Class B, about 25 minutes.

Five minutes before the period ended, students were again given the questionnaire described above and, in addition, a post-meeting reaction sheet (PMR) designed to elicit responses having to do with the satisfaction felt by the students after having worked in subgroups.*

The following day, Wednesday, October 28, the classes met as usual - in full-class session. A completely new topic - the concept of sovereignty - was introduced to both classes. In the teacher-led discussion that followed, students were guided in seeing how the concept of sovereignty provided a principle around which the ideas they had so far generated could be organized, and the documents they had so far considered could be compared, in preparation for the forthcoming essay on the causes of the American Rebellion. Four minutes before the end of the class period, Mr. Patrick again distributed the first questionnaire (described above), which was completed in less than three minutes, but he did not administer the PMR.

The students in both classes, then, worked succesively under two conditions of classroom organization of student effort: in subgroups and in full-class session. These conditions constitute the independent variable in this study. The first questionnaire described above concerns the dependent variable: readiness. Given before and after experience in subgroups and, in effect, before and after experience in full-class, teacher-led discussion, this questionnaire included an assessment by each student of his own readiness to undertake the writing of an essay on a topic assigned by the teacher; an estimate of the value to him of several individual and interactive activities preliminary to such writing; and a report on the usefulness of the various documents for his thinking about writing. It also included two questions designed to determine the extent to which students found themselves stimulated by the methods and materials employed during the two days of the experiment. This questionnaire, then, provided the researchers with an index to changes in reported readiness across the two successive conditions of the experiment. Though not studied systematically, satisfaction with work in subgroups, as measured by the PMR, constituted an additional dependent variable.

---

* A reproduction of the PMR is appended, p. 20.

This design generates the following general questions:

1. What changes in readiness to write an essay on a topic assigned by the teacher occur when students work in subgroups?
2. What changes in readiness to write an essay on a topic assigned by the teacher occur when students engage in full-class, teacher-led discussion?
3. Tangentially, what satisfaction do students report following experience in subgroups?

FINDINGS
TABLE I

NUMBER AND PERCENTAGE OF STUDENTS IN CLASS A AND CLASS E RESPONDING POSITIVELY TO ITEMS ON THE "READINESS" QUESTIONNAIRE, INCLUDING PERCENTAGE OF CHANGE IN BOTH CLASSES ACROSS CONDITIONS.
N = 21 (A); N = 22 (E)

	QUESTIONNAIRE ITEM	CLASS	NUMBER AND PERCENTAGE* OF + RESPONSES, BY ORDER OF ADMINISTRATION						PERCENTAC OF CHANGE*	
1.	How ready do you feel to begin drafting your report of the reasons for the American Rebellion?	A	15	15	18	71	71	86	0	14
		E	3	14	20	14	64	91	50	27
2.	How intriguing, exciting, or vital do you find our methods of studying the Rebellion?	A	19	20	20	90	95	95	5	0
		E	20	22	22	91	100	100	9	0
3.	Which of these things would help you most at this point?									
a)	Try out on my friends the ideas I might put in my report.	A	11	16	14	50	73	64	23	-9
		E	5	9	7	24	43	33	19	-9
b)	Try out on the teacher the ideas I might put in my report.	A	11	6	6	52	29	29	-29	0
		E	14	13	13	64	59	59	- 4	0
c)	Discuss with friends what is contained in the primary sources.	A	8	16	14	38	76	67	38	-9
		E	18	15	17	82	68	77	-14	9
d)	Start writing.	A	6	8	9	29	38	43	9	5
		E	2	2	13	9	9	59	0	50
e)	Get the teacher to give fuller explanations or instructions.	A	9	6	3	43	29	14	-14	-14
		E	11	7	6	50	32	27	-18	- 4
f)	Give assistance to a friend.	A	5	6	5	24	29	24	5	- 5
		E	9	12	12	41	54	54	13	0
g)	Find out what other students are going to do about the assignment.	A	11	12	9	52	57	43	5	-14
		E	9	17	15	41	77	68	41	- 9
h)	Read books or other sources that were not assigned.	A	7	6	4	33	28	19	- 5	- 9
		E	10	13	9	45	59	41	14	-18
4.	How intriguing, exciting, or vital do you find the written accounts of the Rebellion?	A	19	20	19	90	95	90	5	- 5
		E	21	21	21	95	95	95	0	0
5.	How central, useful, irrelevant or unclear do you find the documents?[8]	A	17	19	20	82	92	99	21	7
		E	16	18	20	71	80	89	9	9

---

* Percentages have been rounded to nearest unit.

** Sub = Subgroups' experiences; Disc = Full-class discussion experience.

Table I shows: 1) each question on the "readiness" questionnaire; 2) the number of positive responses given to each question by members of Class A and Class B; 3) the corresponding percentages of positive responses to each question; 4) the percentage of change produced while in subgroups; and 5) the percentage of change produced while in full-class discussion.

On four items, the two classes responded nearly identically. Of these four items, three are mostly irrelevant to the questions asked in this research. These items tell us that at the beginning of this experiment, all but one or two students found the classwork and the documentary accounts of the Revolution "exciting" and "intriguing." After the subgroup and discussion experiences, one or both the holdouts went along with the overwhelming majority expression. In general these responses probably reflect the fact that the students are very pleased with their teacher. In addition, the four or six students in the two classes who did not find the documents very useful initially, were reduced in ranks to one or two by the end of the subgroup and discussion activities. There is no significance to attach to this beyond noting that both groups were getting closer to the time when they would write reports based quite largely on these self-same documents.

The fourth item, on which the classes responded almost identically, is of interest because it is consistent with anticipations: as the classes moved closer to readiness to write reports, their dependence on the teacher lessened. Thus in Class A, the 9 who wanted more instructions from the teacher decreased to 6 during the subgroup activity and thence to 3 during the teacher-led discussion. In group B, the initial 11 dropped to 7 and then to 6. It appears that both the subgroup and discussion activities contributed to the lessened dependence, with the subgroup activity somewhat more influential than the discussion in the case of Class B - but equally influential in the case of Class A, a finding which is in line with some of the known differences between the classes, as will be explained later.

In considering the remaining items, which do tend to reveal differences between the influences of subgroups and discussion activities as well as differences between the classes, two ideas stand out: the classes entered the study with very different degrees of readiness to concoct a report; and they developed readiness by markedly different routes. In other words, the uses they made of the subgroup and discussion activities are quite different.

Let us consider first the gross picture of "readiness." Two items report more or less directly - but with different degrees of rigor - the readiness to compose a report. In Class A, at the start of the experiment, 15 persons (71%) claimed to be ready to begin drafting a report, and 6 of them (29%) even said they were ready to start writing the report. By contrast, in Class E, only 3 persons (14%) were ready to begin drafting the report and only 2 persons (9%) wanted to start writing. Thus Class A in contrast to Class E would appear to have had their ideas more thoroughly formulated, and their commitments to ideas more definitely made.

What happens to readiness during the two activities of the experiment? During the subgroup discussion in Class A, no additional persons claimed to be ready to start writing. In Class E, no additional persons became ready to write, but 11 additional students claimed to be ready to draft the report. It appears that the subgroup activity was most useful in promoting the earlier stage of readiness (drafting) than in promoting the later stage (writing). Consider now, however, the apparent effects of the discussion with the teacher. During this discussion, three of the remaining six Class A students who had not been ready to begin drafting became ready; and one more person was prepared to write. Of the remaining eight students not ready to draft in Class E, six became ready to draft; and eleven (50%) of the class became ready to write. The most marked effect of class discussion with the teacher is on the readiness to write. In short, the most pronounced effect of the subgroup activity is at the earlier stage of readiness, and that of the class discussion with the teacher is at the later stage.

It is clear, then, that one difference between the two classes is that they started with a far different readiness to write the report, and the class furthest from being ready was most influenced (and influenceable) by subgroup experience. This is very much in line with our expectations: that interaction with peers is likely to be especially useful when one is trying to formulate or "get hold" of his thoughts and feelings.

But the rest of the data helps us to reconstruct more of the processes the two classes were engaged in. It also poses a rather interesting alternative explanation for the data so far considered. The alternative is that Class E is just "naturally" more interactive, more interpersonally oriented, than is Class A, not because it is less ready and therefore needs others to help build self-confidence (etc.) but rather because the individuals differ systematically in "personality" between the classes. Regardless of whether it is lesser readiness or greater interpersonal concern that accounts for it, it is nevertheless evident that Class E tends to use interpersonal interaction as a way to deal with interests and needs whereas Class A uses interpersonal interaction less and structured assignments and documents more.

Let us consider this second point from the standpoint of the initial data. With respect to interaction, 11 in Class E (50%) and 5 in Class A (24%) felt that the most important next step was to try out ideas with friends. After subgroup discussion, even more persons felt this way, with the greater gain in Class E; during teacher-led discussion, a few persons lost interest in discussions with friends, but the number is smaller in Class E than in Class A. Thus the class with more initial interest gained more and decreased less than the class with lesser initial interest. In the final count, one-third of Class A wanted such discussion compared to almost two-thirds of Class E.

In a similar vein is the information about "give assistance to a friend." Initially, 5 members in Class A (24%) and 9 in Class E (41%) felt this next step had highest priority. During subgroup discussion, the numbers went up by one and three respectively in the two classes. During teacher-led discussion, the number in Class A dropped back one, to the original 5, whereas it held steady in Class E. Thus, discussing ideas with friends and giving assistance to friends followed the same general pattern - which might be called simply mutual facilitation by peers - and Class E had the tendency more strongly than did Class A.

The third peer-interactive item contains two elements: friends and primary sources. Performance of the two classes on this item seems to reflect both the different amount of readiness to begin drafting the report and the differing tendency to utilize interaction with others. In short, 18 in Class E (82%) and 8 in Class A (38%) initially wanted to discuss with friends what was contained in the primary sources. Following subgroup activity, the numbers are 16 and 15, representing a marked increase in the one class and a small decrease in the other. Further changes during the teacher-led discussion are slight. In general, the simplest summary statement is that Class E had a gregarious interest in discussing things with peers, and that this interest remained substantially the same throughout both activities; whereas Class A had much less interest in peer discussion per se but needed clarifying discussion in order to decide how to use the source materials, and they could and did use each other for this purpose. In a sense, Class E took for granted the opportunity to talk with each other, whereas Class A saw such conversation as instrumental to work and as justifiable in terms of demands of work.

Another item that involves the two components of readiness and gregariousness is 3g: "Find out what other students are going to do about the assignment." What other students will do is, in effect, a work norm and yet at the same time, it is a course of action. One might be interested in it either as a way of gauging how much work is expected (specifying the product) or as a way of deciding how to go about doing the job (defining the procedure).

Presumably, if one already has plans for how to do the job, he would check with others to set up criteria that the product must satisfy; on the other hand, if one had no plans of his own, he might try to get plans from someone else. Thus our interpretation of interest in finding out what others will do will depend partly on how far we think the planning has progressed. In Class A, there was a great gain in interest in discussing primary sources with others during subgroups, and this suggests that planning was by no means complete. But it also suggests that the class was trying to figure out for itself how to write the report. The number of students interested in finding out what others will do remained mostly unaffected by subgroup experience (an increase from 11 to 12), suggesting that the need was not satisfied and that, since the opportunity existed, something else more important was done with the opportunity.

In Class E, however, there was a dramatic jump from the nine students initially interested in the plans of others to the seventeen at the end of the subgroup discussions. Since this class was still at an early stage of planning at this point, the field was presumably open for a range of suggestions from students to each other. In general, we anticipated that stimulation by alternative, possibly conflicting, suggestions would be one of the functions that is facilitated by subgroups during early stages of planning; and the data are consistent with this view.

The interest in reading "books or other sources that were not assigned" confirms the view that planning is indeed going forward during the experiment. Clearly the kind of stimulation one would be seeking in unassigned documents belongs to early or even pre-planning phases. As planning moves forward one would expect this interest to decrease. In Class A the seven students initially interested decreased to four; in Class E, the figures are ten and nine. The shifts during the subgroups and class discussions add further confirmation of the picture: in Class A, the decrease in interest fell across both activities, whereas in Class E, interest in reading unassigned sources went up (from ten to thirteen students) during subgroup discussion and then fell during class discussion. Once again the data point to the notion that Class E was at an earlier stage of planning than was Class A during the subgroup activity.

There is another possible interpretation, however, and that is that the desire to read unassigned materials is in fact a symptom of independence or rebelliousness. If Class E is more inter-personally oriented than Class A, then the assertion that one plans to go off on his own may be more a rejection of authority than a firm plan of action. If the authority at issue is that of action. If the authority at issue is that of form, (the demand that a written report be properly organized, contain sufficient content, etc.) then our data are silent. If, however, the authority at stake is that of the teacher, then our data enable us to reject the hypothesis. The item "try out on the teacher the ideas I might put in my report" should be rejected most in the "rebellious" group; actually Class E showed no change of any consequence on this item, whereas Class A, which is not "rebellious" but simply more "ready," dropped from 11 students to six who had this interest. Similarly, on "get the teacher to give fuller instructions or explanations," an item in which the two groups show similar trends, the wish for more instructions dropped off more during class discussion in Class A (from 6 to 3) than in Class E (from 7 to 6). If either class could be said to have been increasing its independence, it is Class A; and the basis for the action is merely that its planning was firmed up earlier.

In conclusion, one can say that the data hang together very well and that a coherent picture emerges: Interest in interaction with peers (which is facilitated in subgroups) is greater during early stages of planning when the "field" is still open, anxieties presumably greater, and the need to "think out loud" is stronger. As plans develop, decreases occur in reliance on the teacher, need for peer interaction, and desire to browse in unassigned pastures. The "commitment" moves from persons to work.

TABLE II

NUMBER OF STUDENTS IN CLASS A AND CLASS E RESPONDING POSITIVELY TO QUESTIONS ON THE POST-MEETING REACTION SHEET

		CLASS A N-21	CLASS E N-22
1.	Feeling about the subgroup (good - excellent)	17	18
2.	Freedom to speak (always - frequent)	19	19
3.	Understanding of instructions (good)	21	21
4.	Satisfaction with part played (good - high)	20	20
5.	Extensiveness of participation in discussion (everyone - everyone equally)	18	14

We considered the possibility that the differences between the classes might just be due to their personality compositions rather than to their stage of readiness. We cannot rule this out, for greater interpersonal orientation and less readiness to work would have similar effects. We can, however, say that it is unlikely that there is a continuing and strong general disposition for Class E to be more attracted to subgroup activity than for Class A. The evidence is in Table II above. Both classes were equally favorably disposed toward their subgroups. There is a slight indication that certain members of Class E tended to dominate their subgroups at the expense of certain others. But there is no support for the notion of a greater attractiveness of subgroups.

Our final word then, is that Class E may have been less ready initially because of its composition; and the statement that the group has less readiness to work, (e.g. write a report) is dynamically the same as the statement that it is interpersonally oriented. But these are theoretical considerations that in no way change the facts about the relationships between readiness and utilization of subgroups.

GENERAL CONCLUSIONS

Once cannot say that participation in subgroups is advisable for all classes under all circumstances. This very preliminary study revealed that two supposedly similar classes were in fact two markedly different groups, and that each group contained distinct individuals. Despite these differences between classes, we found that subgrouping made sense in both. But hard questions remain concerning the composition of the subgroups, the purposes of subgroups, and the place of subgroups in a unit of study.

As was discovered in this study, other variables have much to do with the effects of subgrouping: characteristics of individuals, for example, and the arrangement of these characteristics in subgroups, (i.e., group composition). Thus qualified, one may say that this study supports the hypothesis that participation in subgroups tends to increase a student's confidence and to move him toward readiness. Apparently subgroup activity can generate new ideas and a desire to get more information. It is clear, finally, both from observation and the data, that students in both classes derived genuine satisfaction from being able to talk about their ideas with friends.

NOTES

1. Whatever this study has to offer the student of classroom method owes its existence to the continuing counsel of Herbert A. Thelen, Professor of Education, The University of Chicago, and principal investigator under the grant from the SSEC, to the cooperation of John Patrick, teacher in The University of Chicago Laboratory Schools; and to the help of Sandra Becich, student in The University of Chicago College.

2. This study, concerned with answering in methodological terms questions about social studies education, was conceived in order to test assumptions underlying Herbert A. Thelen's model of inquiry for teaching. This model pictures education by inquiry in phases: 1) confrontation, with materials selected and arranged for arousal in the student of a "problematic state;" and 2) emergence into awareness; of the nature of the problem induced; 3) collection of testimony, from students, preparatory to the formulation of problems for investigation; 4) conducting of investigations, toward solution of the problems formulated; 5) organization, of findings, and report; and 6) reformulation, of issues joined by a comparison of findings and prior knowledge.

   Central in the model as pictured is the second phase, prototypically employing subgroups to facilitate the conceptualization and verbalization of felt problems necessary to the asking of real questions. There lies the researchers' interest in testing the assumptions underlying this phase.

3. In The University of Chicago Laboratory Schools, the seventh and eighth grades are combined in a single year of study - the prefreshman year. Thus, prefreshmen are between twelve and thirteen years old.

4. It should be noted here that this experiment represents a fortuitous meshing of interests. During the course of a conversation with the researchers, Mr. John Patrick mentioned his intention to have his prefreshman U. S. History classes work in small groups. Mr. Patrick's willingness to have questionnaires introduced during the class periods was very much appreciated.

5. It should be noted that Class A is also Mr. Patrick's homeroom class. Mr. Patrick reports that students were stunned to find the room arranged differently, some even writing complaints on the blackboard, e.g., "Why did you do this without asking us?"

6. This subgroup of two boys and a girl turned up entire in the number of students who found the subgroups generally "poor," as indexed by the PMR.

7. Almost ten minutes were consumed in Class A, largely because the dittoed questionnaires were difficult to read. Class E took about six minutes, using freshly dittoed questionnaires.

8. The numbers representing the responses to this item must be interpreted differently from those representing other responses on the questionnaire because the responses are ordered differently. Thus, the 17 in the first response column for Class A means that approximately 17 (an average figured over documents) persons found all documents either central or useful.

9. Positive response is defined as either one of the two most positive responses to both four-choice and five-choice responses on both the questionnaires.

Teacher__________________ Name__________________ 1 2 3

Period__________________ Date______________ Group________

1. How ready do you feel to begin drafting your report of the reasons for the American Rebellion?

_____ Definitely ready now
_____ I guess I am ready - not sure
_____ Have some ideas, but not yet ready to write
_____ Very much at sea about the whole assignment

2. How intriguing, exciting, or vital do you find our methods of studying the Rebellion?

______ pretty dull ______ so-so ______ somewhat interesting ______ very exciting

3. Which of these things would help you most at this point? In front of each statement below, place a check in the appropriate column.

Very Helpful	Some-what	Maybe - Maybe not	Definitely not	
				Try out on my friends the ideas I might put in my report.
				Try out on the teacher the ideas I might put in my report.
				Discuss with friends what is contained in the primary sources.
				Start writing.
				Get the teacher to give fuller explanations or instructions.
				Give assistance to a friend.
				Find out what other students are going to do about the assignment
				Read books and other sources that were not assigned.

Teacher____________________ Name____________________ 1 2 3

Period____________________ Date_______________ Group________

4. How intriguing, exciting, or vital do you find the written accounts of the Rebellion?

________	____	________________	____________
pretty dull	so-so	somewhat interesting	very exciting

5. In front of each document, place a "C" if the document is Central to your report, a "U" if it is Useful but not vital, an "I" if it is Irrelevant, a "D" if you Don't know yet.

____ "A Letter to the Inhabitants of the Colony of Massachusetts," by John Adams

____ The Townshend Revenue Act--June 29, 1767

____ Graphs and charts relating to trade between colonies and England

____ "Commentary about Colonial Economic Progress," by Lawrence Henry Gibson

____ The Navigation Act of 1660

____ The Proclamation Act of 1763

____ The Stamp Act

____ The Stamp Act Congress: Resolutions

____ The Declaratory Act

____ Declaration and Resolves of the First Continental Congress

____ Letters from George III to Lord North

Teacher ____________________ Name ____________________ 1 2 3

Period ____________________ Date ________________ Group _______

1. How did you feel the subgroup was today?

no good	poor	all right	good	excellent

2. How often did you find yourself wanting to say things in your group, but for one reason or another you did not actually say anything?

never	a few times	fairly often	frequently	very frequently

3. How clearly did you understand exactly what the subgroup was supposed to do today?

not at all	vaguely	pretty well	perfectly

4. How satisfied were you with the part you played in the subgroup?

really disappointed or discouraged	rather disappointed	fairly well satisfied	really delighted and pleased

5. To what extent did everyone take part in the discussion?

one person dominated	two persons carried the ball	everyone talked at least once	everyone talked equally

PART III

CLASS DISCUSSION IN A UNITED STATES HISTORY CLASS: RELATIONSHIPS BETWEEN CHARACTERISTICS OF A CONTRIBUTOR AND JUDGMENT OF CONTRIBUTION

Keith Elkins

TABLE OF CONTENTS

Background and Purpose 1

Procedures and Design 2

Findings 4

Summary and Suggestions 14

Notes 16

BACKGROUND AND PURPOSE

In many of the more recently enlightened classrooms, teacher-led, or teacher-guided, classwide discussion is often used to effect learning. In virtually all classrooms it is sometimes used for this purpose. It is clear to those assessing products of the classroom as well as to those observing processes in it that class discussion may or may not effect learning. If we are interested in effecting learning through class discussion, then, it would seem necessary for us to know those conditions under which so widely used a pedagogic device does or does not effect learning.

It is assumed here that class discussion does allow the student to learn from the contributions of others; further, that student learning from others is determined by how useful he perceives these contributions. These assumptions permit us to ask the following questions for gauging learning as effected by class discussion: 1) How useful to the class are contributions from a class discussion? 2) To what extent does one student find useful the contribution of another? Quantitative answers to these questions should allow us then, to view whatever learning has been effected by class discussion against some of the conditions under which such discussion is conducted.

These are the questions to which the researchers addressed themselves as they observed a class discussion and collected student responses to the contributions of their classmates in that discussion. These responses, the researchers felt, would be affected in some way and to some extent by the person making the contribution, the kinds of contributions made, and the reaction exhibited by the teacher to the contributions. That is, there could be differences according to the sex, intelligence or achievement, and popularity of the contributor; according to the substance of the contribution; according to the concomitant affective characteristics of the contribution; and according to the nature of the teacher's reaction to the contribution, whether supportive or punitive for example.

This study will focus rather narrowly on the relationships occurring between certain characteristics of contributors to class discussion and the extent to which their contributions are perceived as useful by other members of the class. It was hoped that configurations and patterns can be discovered in the data gathered and displayed, and that these discoveries will cast doubt on some entrenched ideas and light on some emerging ones.[1]

PROCEDURES AND DESIGN

Two prefreshman United States History classes in The University of Chicago Laboratory School, both taught by Mr. John Patrick, were used in this study, carried out in the spring of 1965.[2] Since data in one of the classes were inadequately gathered and are hence unusable, only the part of the study that involved the other class will be reported here.[3]

The class met at 8:55 a.m. every weekday except on Thursdays when it met immediately after their homeroom period in the same room with the same teacher. It was composed of nine girls and twelve boys. Among these 21 students were four who read at the (Lab School) fourth-grade level, five who were new to the Lab School as they began their prefreshman year, and two who were repeating their prefreshman year. Members of the class asked few questions about class assignments at the time they were made. They asked questions individually as unanticipated difficulties arose during the course of the class period, or in concert as unexpected implications became clear at the end of a class period. All together decorous, the class had no students who spoke impulsively or compulsively; the ones who spoke most often were brief. According to comments by the teacher, and observations by the experimenters, members of the class "listened to each other" and "built" on each other's comments.[4]

Sitting where he chose at two- or three-man tables arranged in a single circle that included a place for the teacher, each student had in front of him a small 2 x 2 x 3 inch gray box on which there were two buttons, a green one at the top (or away) and a red one at the bottom (or close). These button-boxes were connected by wire to two twelve-plug collection boxes, thence by cable to a battery of two, twenty-pen event recorders.[5] Each of the twenty green buttons was hooked to a pen in one of the event-recorders, which was so equipped that all twenty pens made continuous green lines on a running paper tape.[6] Each of the red buttons was similarly hooked to a pen making a continuous red line on a tape in the other event-recorder. Depressing any button caused the pen to which it was connected to take a sideways jump of perhaps an eighth of an inch, leaving a rectangular blip in the line traced on the running paper tape. Each of the 19 students used in the study was thus able to record one kind of response on one event-recorder, another kind of response on the other event-recorder.[7]

By pressing the buttons facing them in one of four predetermined ways, the students were to record their responses to each contribution in the class discussion. When the teacher raised his hand after each contribution, they were to press the green button if they found the contribution "useful" to them in their preparation for a "written exercise," the red button if they found the contribution "useless." If they found the contribution altogether useful or useless, they were to press the appropriate button once - twice if they found it partially so.[8]

The observer in the class also had controls. By pressing a button at his left hand, he could: 1) override the event-recording circuit of any of the students in the class; 2) fire a variable-pitch tone oscillator; and 3) record the oscillator's tone on the sound tape used to record the entire class session. At his right hand, the observer had a chart whose rows he had previously coded according to Morse. As each contributor spoke, his name was entered in sequence in the space beside a letter of the alphabet, and then the letter was recorded in Morse code on the sound tape and both paper tapes. All this was done to make cross-referencing simpler.

In addition to recording the data described above, information concerning academic aptitude, academic achievement, and social standing in the class was gathered for each student in the class. These data were on file in cumulative folders in the Laboratory School Guidance Office. To index academic aptitude, Henmon-Nelson IQ's were gathered; to index academic achievement, grades in social studies for the 1964-65 academic year and STEP scores in writing and social studies, earned in March of 1965, were gathered; to index social standing in the class, a sociometric instrument, administered in May, 1965, was used.[9]

It should be noted again that the entire class session was recorded by use of a lavalier microphone suspended from the ceiling in such a way that it was nearly equidistant from all persons seated at the circle of tables mentioned above. Recording the entire class session made it possible to assess the contributions made by participants in the class discussion and the responses made by the teacher to those contributions.

In a sense, this exploratory study by the researchers began with the evaluation of a contribution to class discussion and worked toward an explanation of why that contribution was so evaluated, an explanation in terms that had to do with what kind of person made the contribution. Doing so, they hoped, would allow them to discover some of the conditions under which learning may be effected by class discussions, or at least some of the conditions under which learning may not be so effected.

FINDINGS

In Table I below are recorded all responses to every contribution made on the day data were gathered. In the left-hand column the students who attended class that day are identified according to the number of the button-box in front of them.

Grouped according to sex, the numbers are sequentially arranged within groups. Using the same grouping along both vertical and horizontal dimensions of the Table produces quadrants in which are represented the responses of boys to the contributions of both boys and girls across the top and the responses of girls to the contributions of both boys and girls across the bottom. Responses are represented as follows: 1's and 2's stand for judgments of "altogether" and "partially useful" respectively; 1's and 2's preceded by a hyphen (e.g. -1) stand for judgments of "altogether" and "partially useless" respectively. An empty cell means no judgment was made. Totals appear in the margins.

This arrangement of data enables one to see by reading down, how each contribution was judged by every student, and, by reading across, how each student judged every contribution. It should be remembered that: 1) All students had been instructed to respond when the teacher raised his hand after each contribution; 2) Each student could make either a positive or a negative judgment of a particular contribution, but not both.

TABLE I

Class members are identified by number (of button box) and grouped by sex vertically. Contributors are identified and grouped the same way horizontally. Multiple horizontal entries mean multiple contributions. Rows contain each student's judgments of all contributors; columns contain judgments of each contributor by all students. Judgments of 1 and 2 mean "altogether" and "partially useful" respectively; -1 and -2, "altogether" and "partially useless" respectively. An empty cell means no judgment was made. Totals appear in the margin.

ID	1	5	5	6	6	6	8	11	12	12	12	13	14	14	4	4	9	10	10	17	18	18	18	19	19	Totals (-)	Totals (+)
1	1	-1	1	-2	-2	1	1	-2	2	1	2		2		2		2		2	2	1	2	1	-2		5	15
2	1	-1	2	2	1	2	2	1	1	1	2		2		-2		1		1	2	1	1	2	2	2	2	19
3	1	-2	2	2	2	1	2	2	2	1	1		2		2		2		-2	2	2	2	2	2	2	2	19
5	1	2	1	1	1	2	2	2	2	1	2		-2		2		2		2	2	2	1	2	2	2	1	20
6	1	-2	2	1	1	1	2		-2	1	-2		-1		-2				1	1	2	1	-2	2	2	6	12
7		-1	2	2	1	2	2	1	2	1	2		-2		2		-2		1			1	2	1	2	3	15
8	1	1	2	2	1	2	2	2	2	1	2		-2		-2		1		2	-2	1	-2	1	2	2	4	17
11	1		2	1	2	2	2	2	2	1	1		-1		2		2		2	2	2		2	-1	2	2	17
12	1	-1	1	-2	1	-2	1	-2	1	2	1		-2		2		2		2	2	1	2	2	-1	2	6	15
13	1	-1	2	1	2	1	2	-1	2	1	2		-2		2		-1		2.	2	2	1	1	2	2	4	17
14	2		1	1	1		-1	1	1	2			1		-2		2			1	1	-1		-1	-1	5	11
4	1	-1	1	1	2	2	2	1	-2	1	2				-1		2		1	1	1	1	2	2	2	3	17
9	1	-2	1	1		-1	1	1	2	2	2		-1				-2		-2	2	2	2	2	-2		6	12
10	1	-1	2	2	-2	2	1	2	-2	2	2		-1		-2		2		2	-2	2	2	2	2	-2	7	14
16	2	-2			1	1	1		2	1	2		2		-2		2		1	-2	1	2	1	2	1	3	15
17	1	-1	2	2	1	1	1	-2	2	1	2		-1		-2		-2		1	2	2	2	2	-2	-2	7	14
18	1	-2	1	1	1	1	1	1	2	1	1		2		-1		2		2	-2	1	1	1	2	1	3	18
19	1	2	1	1	2		2	2	1	1	2		2		2				1	1	1	1	1	1	2	0	19
20		-1													-1											2	0
Total (-)	0	14	0	2	2	2	1	4	3	0	1		10		10		4		2	4	0	2	1	6	3		
Total (+)	17	3	17	15	15	14	17	12	15	18	16		7		8		12		15	13	17	15.	16	12	13		

Referring to Table I, consider sex. Six girls of eight present and eight boys of eleven present participated in the class discussion. (One girl, a strong participant in class discussion, and one boy, a sometime participant, were absent on the day data were gathered.) Participation, then, was fairly evenly distributed across sex and fairly widely distributed within. In terms of decimals representing the proportion of negative to positive responses, boys and girls judged each other's contributions as follows:

	Boys	Girls
Boys	.24	.21
Girls	.23	.36

Both groups show a tendency - really insignificant in the case of boys - to judge the contributions of members of their own sex more harshly than the contributions of members of the other sex. The proportion of negative to positive responses given by girls to the contributions of girls stands in sharp contrast to the other three proportions reported, these being very near each other in value. It shows quite clearly that in this class, girls are a great deal harsher in their judgments of each other's contributions 1) than they are in their judgments of boys' contributions, 2) than boys are in their judgments of each other's contributions, and 3) than boys are in their judgments of girls' contributions.

TABLE II

Table II identifies each student who participated in class discussion by number (of button-box used) and sex, and shows the number of negative responses to his first or only contribution, his grades for the year in social studies, and his percentile score on the STEP social studies scale.

Neg. Res.	ID	Sex	Grades*				STEP SS	Neg. Res.	ID	Sex	Grades				STEP SS
0	1	M	G	S	S	S	53	4	11	M	S		S	S	36
0	18	F	E	E	E	E	93	4	9	F	E	E	E	E	67
1	8	M	S	S	S	S	96	4	17	F	E	S	E	VG	20
2	6	M	S	S	S	S	84	6	19	F	S	S	S	S	20
2	10	F	S	S	S	S	28	10	14	M	S	S	S	S	12
3	12	M	S	S	S	VG	93	10	4	F	S	S	S	S	16
								14	5	M	U	U	U	U	02

*U - Unsatisfactory; S - Satisfactory; E - Excellent;
G - Good; VG (Very good - better than satisfactory)

What of achievement? A quick glance at the grades earned by students in both groups - one composed of students receiving three or fewer negative responses and displayed on the left side of Table II, the other composed of students receiving four or more negative responses and displayed on the right side of Table II - suggests that there are no striking differences between the groups.[10] Crude numerical grade equivalents of 1 to 3 average out to 2.11 for those receiving more negative responses and 2.25 for those receiving fewer.[11]

Using a normative measure of achievement in social studies - the STEP social studies test - produces some striking differences.[12] While four of the six in the group receiving fewer nagative responses earned percentile scores of 84 and above, six of the seven in the group receiving more negative responses earned percentile scores of 36 and below. Concluding that a student's achievement in social studies accounts, if only in part, for the perceived usefulness of his contribution to class discussion, however, seems lacking in cause. What can account for both the level of his achievement and the usefulness of his contribution?

TABLE III

Table III identifies each student who participated in class discussion by number and sex, and shows the number of negative responses to his first or only contribution and his IQ according to Henmon-Nelson.[13]

Neg. Res.	ID	Sex	Henmon-Nelson IQ
0	1	M	128
0	18	F	141
1	8	M	116
2	6	M	136
2	10	F	120
3	12	M	135
4	11	M	123
4	9	F	129
4	17	F	124
6	19	F	135
10	14	M	113
10	4	F	116
14	5	M	102

Consider intelligence, even if crudely measured. Table III shows that four boys and two girls of the 13 students who participated in the class discussion received three or fewer negative responses to their first or only contribution. Three boys and four girls received four or more negative responses. The average Henmon-Nelson IQ for the six who received three or fewer negative responses is 129.3; that for the seven who received four or more negative responses is 122.8.[14] The argument implied here may be refuted quite effectively by reporting that for the five boys and four girls who received four or fewer negative responses, the average IQ is 128, while that for the two girls and two boys who received six to 14 negative responses is 116.5.

However, the girl who received six negative responses to her contribution has an IQ of 135, a quotient exceeded in value by only two others in the class. The boy who received only one negative response to his contribution shows an IQ of 116, a quotient lower than those of four students who received four to six negative responses. These are out of line. While the average IQ's of female contributors is 127.5 compared to the male contributors' 122.1, boys outnumber girls (four to two) in the group that received three or fewer negative responses to their contributions, and girls outnumber boys (four to three) in the group that received four or more negative responses. These tricks of the numbers suggest that intelligence does not alone determine the extent to which a student's contribution will be found useful by his classmates in class discussion.

On May 5, 1965, members of the class were administered a sociometric instrument.[9] One of the questions asked on that instrument was: Who are your three best friends? Responses to this question are displayed in Table IV.

TABLE IV

	Boys											Girls							
ID	1	2	3	5	6	7	8	11	12	13	14	4	9	10	16	17	18	19	20
1		1	2							3									
2	2		3				1												
3		1										2		3					
5	1							2											
6						2	3		1										
7							3		2										
8					2	3		1											
11				3									1			2			
12						3													
13	3										2								
14	1							3		2									
4		1												3		2			
9												2		3		1			
10		1										3	2						
16																3	2		1
17															2		3		1
18									1							3		2	
19																2	3		1
20																2	1	3	
Total Points	7	2	7	3	2	8	7	6	4	5	2	7	3	9	2	15	9	5	3
Rank	6.5	17.5	6.5	14	17.5	4	6.5	9	12	10.5	17.5	6.5	14	2.5	17.5	1	2.5	10.5	14

Like Table I, Table IV groups students along both vertical and horizontal dimensions according to sex. Within groups they are ordered according to an ID number derived from one arbitrarily given to the button-box before which they chose to sit. Reading across, one can determine which of his classmates each student chose as one of three best friends and, by the value of the entry, in what order the names of those chosen were listed. Weights of 3, 2, and 1 have been given to first, second, and third choices, respectively.[15] This weighting generates the figures in the row labelled "Total Points" and, in turn, produces the popularity ordering in the row labelled "Rank."

First some general observations. Responses to the question (i.e., Who are your three best friends?) reveal what might be expected. Best friends in this class of twelve- to thirteen-year-olds tend to be chosen from among members of one's own sex; they show that even the few cross-sex choices are more often second and third rather than first choices. It is interesting to note further that of four choices given to girls by boys, three are first or second choices, while girls give only third choices to boys. This can account in part for the boys' average popularity rank of 11 to the girls' 8.6. More intriguing is a simultaneous consideration of the girls' tendency to reserve popularity to other girls and their tendency to judge each other's contributions more harshly than they do the boys' contributions. (See Table I.) How can one account for these seemingly contradictory tendencies?

TABLE V

Rank	Sex	ID	No. Negative Responses	Rank	Sex	ID	No. Negative Responses
1	F	17	4	7	F	19	6
2.5	F	10	2	8	M	12	3
2.5	F	18	0	9.5	M	5	14
5	M	1	0	9.5	F	9	4
5	M	8	1	11	M	6	2
5	F	4	10	12	M	14	10
6	M	11	4				
Totals	4 3		21		2 4		39
Average	4 1.7				5 7.2		
Average	3				6.5		

In Table V students are ordered according to their popularity rank. So that the more popular may be compared with the less popular, the list has been split vertically and rearranged horizontally with the more popular on the left and the less popular on the right. Corresponding to each student's rank in the first column is a fourth column showing the number of negative responses made to his first or only contribution. In the other two columns each student's ID number and sex are indicated for reference purposes. The row at the bottom labelled "Totals" shows: 1) the number of boys in each group; 2) the number of girls in each group; and 3) the number of negative responses earned by all persons in the group. Below the row labelled "Totals" are two labelled "Averages": the first records the average number of negative responses to the contributions of boys and girls separately in both groups; the second records the over-all averages for both groups.

The overall averages for both groups - 3 and 6.5 - suggest an inverse relationship between popularity and frequency of negative response. But the difference in average number of negative responses earned between the first and second groups is accounted for almost entirely by the difference between the averages for boys in both groups - 1.7 and 7.2. The difference between the averages for girls is slight at best - 4 and 5. These differences, considered in connection with the data in Table I and IV, suggest (in answer to the question following Table IV) that girls, in showing a liking for each other, are more assured of their standing with members of their own sex and hence are judging the contributions rather than the girls who make them. Boys, on the other hand, seem to vary their judgments of contributions of other boys according to the popularity of the contributor.

On the basis of the data in Tables I, IV, and V, one may only conclude, confidently, that boys and girls in this class differ in the degree to which their within-sex judgments of contributions are affected by within-sex popularity of contributors. Because of the numbers of persons involved, the data leave unanswered questions concerning:

1. the degree to which cross-sex judgments are affected by within-sex popularity;
2. the degree to which within-sex judgments are affected by cross-sex popularity;
3. the degree to which cross-sex judgments are affected by cross-sex popularity.

SUMMARY AND SUGGESTIONS

We began by questioning the assumption that the value of a contribution, as defined by its perceived usefulness, will vary according to the qualities of the contribution itself. We substituted for it one to the effect that the value of a contribution will vary as well with the nature of the contributor. We asked, Is there a relationship between certain qualities of the contributor and the value of his contribution as perceived by others?

More specifically, we asked: What is the nature of the relationship between the perceived usefulness of a contribution and the sex of the contributor? What is academic achievement and intelligence of the contributor? What is popularity of the contributor?

The data shows:

1. that girls tend to judge the contributions of girls more negatively than they judge those of boys, and more negatively than boys judge those of either girls or boys;
2. that student capability (as indexed by both grades and STEP scores) tends to vary inversely with frequency of negative judgment (which supports the view that the perceived usefulness of a contribution will vary with substantive qualities of the contribution itself, if one assumes further a relationship between capability of contributor and quality of contribution);
3. that the boys in this class show a tendency to vary their judgments of contribution according to the popularity of the contributor; and
4. that girls in this class show a tendency to make their judgments of contributions without regard for the popularity of the contributor.

These observations question any assumptions about the value of contributions to class discussion that do not take into account other factors as well, in this case several resident with the contributor. The data suggest, by extension, that class discussions planned only in terms of the constraints imposed by the substance of what is to be discussed may fail, at least that whatever success such discussions may enjoy is contingently independent of the planner's efforts. The data suggest, then, that if classroom discussion is to be successful - that if class discussion is to effect learning - it must be planned with regard for the character of the contributors as well as the nature of the contribution.

NOTES

1. This study was conceived by Herbert A. Thelen, Professor of Education, The University of Chicago, and principal investigator under a grant to the Social Science Education Consortium. It was carried out and written with his counsel. It could not have been completed without the formal and substantive contributions of John Patrick, teacher of social studies in The University of Chicago Laboratory School.

2. In The University of Chicago Laboratory Schools, the seventh and eighth grades are combined in a single year of study - the prefreshman year - after which students enter high school as freshmen. Prefreshmen, then are between 12 and 13 years old.

3. Caught up - as he often was - in the excitement of his students as they discovered and developed new ways of thinking about what they already knew, John Patrick forgot to follow up most of the contributions to the discussion in this second class with a signal that judgments of the usefulness of the contribution were to be made. The writer would not have had it otherwise.

4. This description has been developed, with slight modification, from a report of an earlier study in the same class, also done under a grant to the SSEC.

5. These operation recorders (called event-recorders here) were manufactured by Esterline-Angus as Model AW.

6. The record chart (called paper tape here) was manufactured specially for Esterline-Angus's operation recorders and carries the following model number: 1740-X.

7. Two of the total number of 21 students in the class were absent. (Button-box number 15 was not used.)

8. The following directions were taken as spoken from a tape. There has been no editing.

   "Everything in our class period today is going to go on as usual; we're going to conduct a usual kind of discussion, except that we're going to do some things with these boxes. We'll be making judgments about this discussion. We're going to be having a written exercise Monday in which you'll be using this information that you've been working with the last couple of days; you'll be using that generalization that's on the board ('Workers have been more successful in solving their problems since the 1930's than before that time because of help from the federal government.'). And today, in preparing for that written exercise through discussion, I want you to judge the extent of which it is useful to you in preparation for our written exercise on Monday.

"Now, this is the way that you will make your judgments about the usefulness of what is said by anyone in class. If the statement - what is said - is altogether useless, you will press down once on the red button. Don't do it now;you will press down once on the red button. If what is said seems to be useless - it's not altogether useless, but it seems to be useless - it doesn't have too much value - press down the red button twice, deliberately, carefully, distinctly, twice. If what is said seems to be useful, press the other button, the green button, down twice, deliberately, distinctly, carefully. If what is said seems to be very valuable, very useful, really helpful to you, then press the green button down once. The code is on the board - the key is on the board - which tells you what to do.

"Now, do not press any buttons, do not make any judgments, by pressing buttons, unless I signal you to do so. At points along the way in our discussion, I will raise my hand like this (raises hand over head). Whenever I raise my hand, it is time for you to make these judgments that I have just instructed you about. Now, this is to be done individually; this is to be done independently. This making of judgments of what is said is not to be a group exercise. So it will have value if you kind of cup the box like this (cups hand around box on table in front of one of students, all of whom are in a circle) when you make your judgment, so that the judgment you make does not influence your neighbor's judgment. So when you do make your judgment - when you press the button - kind of cup your hands around the box so that only you know what judgment you're making."

It concludes with class members asking questions having the following form: If you wanted to indicate such and such a judgment, how would you do it?

9. That instrument, whose questions are reproduced below, was administered by Thomas Hawkes, then a research assistant to Herbert A. Thelen.

   1. Who are your three best friends?
   2. Who are three people you don't get along with?
   3. Who are three people you would like to play a game with?
   4. Among your classmates whom do you consider to be good friends with each other? Below are several spaces to list the pairs of friends. Do not include yourself.

   Questions No. 2, 3, and 4 were not used, No. 2 because of reticence in answering the question completely or at all; No. 3 and No. 4 because they are only indirectly relevant.

10. According to Philip Montag, chairman of the Department of Social Studies in the Laboratory School, the performance of the student is graded in direct competition with neither his

own nor others' performance but in relation to standards derivable from the teacher's view of the nature of the task and the capability of the student.

11. Those equivalents are as follows: U=1, S=2, G, VG, E=3. The difference between the 2.11 and 2.25 reported is more than accounted for by the student who received 14 negative responses; computing group averages without him reverses the relationship - 2.30 for those receiving more negative responses, 2.25 for those receiving fewer.

12. The data used here were recorded in the students' cumulative folders in March, 1965; the instrument was administered shortly before.

13. The Henmon-Nelson, Grade 6-9 Form A, was administered in January, 1965.

14. When this average is computed without the lowest IQ (102), earned incidentally by the boy who received the most negative responses (14), it is 123.3.

15. Justifying such weights is an assumption that best friends spring to mind - and are hence listed - according to the magnitude of "bestness."

MORALITY

Michael Scriven
History and Philosophy of Science
Indiana University

MORALITY

TABLE OF CONTENTS

Preliminaries

Page

0. The Problems 1
1. The Conclusions 2
2. Morality Distinguished from Prudence 6
3. Unsound Bases for Morality 7
4. Does Moral Disagreement Support Moral Scepticism? 8
5. Is Unselfish Behavior Possible? 9
6. Is Pleasure--or Happiness--the Only Goal? 10
7. The Paradox of Justifying Morality 13

The Basic Case for Morality

8. An Illustrative Example: Army Discipline 15
9. The Moral Community--Definition 18
10. The Expectancy Advantage for the Moral Community 22
11. The Productivity Advantage for the Moral Community 25
12. The Adaptability Advantage for the Moral Community 28
13. The Moral Compromise 34
    13.1 The Exploitation Ideal 36
    13.2 The Indoctrination Ideal and the Retreat to Equality 45

Criticisms and Refinements

14. Attitude Inertia and Self-Sacrifice 49
15. Attitude Inertia and Some Moral Puzzle-Cases 59
16. Evolutionary Ethics 72
17. The Formulation and Interpretation of Moral Maxims 74
18. The Moral Franchise: Who is equal? 82
19. Attitude Control 103
20. Paradoxes of Commitment 110
21. Conclusions 116

MORALITY

Preliminaries

0. The Problems

Are moral judgements any more than an expression of the attitudes we acquire from the society in which we live? Are they not, therefore, highly relative and subjective--not objective claims at all, but just sales talk in Sunday dress? Why should one bother with so-called 'moral' considerations except where they overlap with selfish ones? In particular, how could real self-sacrifice ever be sensible? How do you define 'good'? or 'ought'?--isn't it impossible to do this except by using other moral terms, which makes the definition circular? Shouldn't enlightened self-interest (or perhaps pleasure-seeking, or perhaps self-realization) be the ultimate foundation of morality? Should your conscience be your guide? Are there any exceptions to the Golden Rule? How should one interpret Thou shalt not kill?--to mean that killing is always wrong, or usually wrong, or wrong unless proved otherwise? To whom, or to what, do moral standards apply; to infants, morons, animals, nations, robots? Is it realistic to suppose that we shall ever get agreement on moral issues, and if not, isn't that good grounds for practical scepticism about the existence of absolute moral standards? Is there some kind of ultimate distinction between facts and values? Isn't religion the only possible basis for a morality that will work in this imperfect world? Should we praise people for effort or for achievement--if a saint finds it easy to behave morally doesn't that show he's not so deserving as if it were very hard for him? Is it someone's motives that determine whether his actions are virtuous, or is it the consequences of the actions?

1. The Conclusions

If we indicate the general nature of the proposed conclusions at the beginning of this chapter, the reader will more easily detect irrelevancy and impropriety in the ensuing arguments, since he will know what it is supposed to achieve. With the arguments of this chapter, such assistance is almost essential, for they are themselves complicated and their connections and assumptions are not easily stated. In fact, the only way to get a precise understanding of the conclusions is from a careful study of the course of the arguments. But we can begin with an approximation.

Roughly, then, it will be argued that there is a particular conception of morality which can be shown to be an extension of rationality. This conception is relevant to many decisions about actions and attitudes that affect more than one person, and where it is relevant we shall see that immorality can be said to be irrational. This does not mean that any immoral act by any person is irrational in terms of that person's current goals; it means that having moral goals is rationally preferable to not having them.

Compare the question, Why be moral? with, Why use statistics? As a first answer to both questions it might be said that morality and statistics are extensions of reason and hence have all the sanctions of reason in the circumstances appropriate for their use. To the follow-up question; When shouldn't you be acting morally/(using statistics)? we would, prosaically, answer, (a) When it's irrelevant to what you're doing

(b) When it's relevant, but you aren't sufficiently well trained to be able to benefit from its advantages. Specifically; statistics isn't relevant when you're not trying to analyze complex data and morality isn't relevant when you are analyzing situations which are only of concern to yourself.* But if you're ever likely to be in the other kind of case, it is rational to train yourself (or get yourself trained) to the point where doing statistical analysis/(acting morally) comes naturally. One can't immediately blame a man who doesn't know statistics/(lacks moral feelings) for not using statistics/(acting morally); but one can sometimes blame him for his lack.

So the general line of argument will be that rational but non-moral evaluation of different possible attitudes toward other people indicates the superiority of the attitude of regarding them as deserving equal consideration (which we shall identify as the moral attitude). For people in different circumstances, the argument has different forces. With regard to the children we are now bringing up it clearly indicates a particular way to do this; for a selfish but highly successful middleaged man it has less impact; for a government official it fully reinforces the ideology of his profession, etc. So, in the sense that there are good reasons, from his point of view, for a drug addict to take drugs, there can be good reasons for an immoral man to murder for gain. But this in no way shows that taking drugs or murder for gain is in itself rational, for it is not rational to allow oneself to become an addict or an immoralist. In the dominant sense, therefore, addiction and immorality are (typically) irrational.

---

*This is true in the core conception of morality, with whose defense we are concerned. Mild extensions of it, to include the conception of 'moral fibre' (i.e., strength of character), duties to oneself, etc., are plausibly defensible.

The moral society is a far greater advance on the pre-moral, in practical terms (e.g., likelihood of survival) than the industrial on the nomadic; but the moral revolution requires us to pull ourselves up by our bootstraps with a different twist, for the maximum gain in this case is for those with, individually, the least material power.* Democracy is almost a precondition of the moral revolt, but no guarantee, for a democracy whose culture has led it to place a very high value on bread and circuses, or beer and television, will not have much interest in pulling at its bootstraps.

Some of the other conclusions to be drawn can be indicated briefly. Our natural wants and needs, (a motley crew, not consisting of pleasure in many guises) like our beliefs and attitudes are not automatically or intrinsically good, but simply a starting-point from which we discover that the most efficient way to resolve disputes and improve the expectations of each of us requires the adoption and enforcement of some rules about distribution, obligation, etc. The concepts of moral goodness, rightness, etc., apply within this system of rules in precisely the way that non-moral concepts of goodness and rightness apply in the system of rules we develop for strategy in war, mathematics or consumer research. In terms of these rules we may have to modify or condemn some of the wants from which we start; so the premoral springs of morality eventually become an object for moral assessment. Thus emerges the acclaim for unselfishness and the condemnation of sadism.

---

*The significance of this difference in the driving force for moral rather than industrial progress becomes clear if one recalls that the basic insight into morality was certainly formulated 250 years ago (in Richard Cumberland's De Legibus Naturae), if not 2000 years earlier, in Plato, since which time we have created virtually the whole structure of modern science, transformed Terran technology, made a fair start on colonization of the Moon and de-colonization of the Earth. The charms of morality are more subtle than the delights of power.

In a complex system of this kind it is as hopeless to produce brief non-trivial definitions of "good," "duty," etc., as it is to attempt the corresponding task in chess or bridge with regard to "good move"; but the system is clearly founded on non-moral facts and evolves morality from them by the application of reason. Thus the ultimate appeal is to an objective truth, and not to our beliefs about it; so conscience is only a secondary guide and consequently we may be blamed for possessing an inadequate conscience. Formally, the system is best construed as containing one basic moral principle, the principle of equal consideration, from which all other moral principles (justice, etc.) can be developed; the principle itself being justified in terms of a comparative evaluation of the possible alternatives and their effects on a society which embraces them. This moral axiom can be interpreted in two ways, yielding what can be termed strong and weak morality. Weak morality involved the recognition of the rights of others but no positive interest in furthering their welfare; strong morality involves identification with the interests of others. The first is the domain of obligation, the second of supererogation; the first of honor and decency, the second of nobility, love and heroism. We shall be especially concerned with the justification of strong morality, the more difficult task.

The objectivity of moral judgements, in terms of the system just described, is exactly that of any very complex solution of an important practical or theoretical problem; emotions are more involved than in most practical problems, but the total authority of facts and reason applies and we fail if we fight it.

The chapter first discusses some simple difficulties (Sections 2-7), then turns to the main arguments for morality (Sections 8-12) and finally considers a series of refinements and more serious difficulties in the light of the developed argument.

2. Morality Distinguished from Prudence

The most striking feature that distinguishes what we usually call moral principles from mere good advice is that they are supposed to be obeyed even when obedience does not seem to be in one's own best interest. That is, they supervene over and may contradict self-interest. Obviously, stealing is foolish if one is likely to be caught; this is not a moral conclusion and in such circumstances there is no great virtue in not stealing. But if you are justifiably certain of getting away with a theft, and the gains are very large and your need very great, your own interests appear to conflict with the recommendation of morality. We shall confine our attention to the questions whether, in what sense, how, and which rules of this kind can be justified. One may use the term "morality" to cover any system of 'rules to live by,' including purely selfish ones and ones that are entirely relativistic, but the usual systems embody the above feature of potential clash with self-interest, and they also share a number of common principles (such as injunctions on stealing, lying and killing) so it is of particular interest to investigate the possibility of supporting a system of this family. It will be argued here that just one system of this kind can be given direct rational support, and that all others of this kind, as well as egocentric or relativistic 'morality' are insupportable. Hence the terms "moral" and "ethical" (which are synonymous in most contexts) and their associates will here usually refer to the allegedly defensible system we shall try to construct; but sometimes, where the context makes it clear, it will refer to all systems of rules governing behavior which have been put forward as moralities.

3. Unsound Bases for Morality

The author has presented elsewhere the argument that morality cannot be ultimately founded on the ordinances of a God, because the existence of God cannot be demonstrated; and, even if it could be, we would still need independent standards of morality by which to tell if God is good. For, if the standards are not independent, it is only a definitional truth that He is good, and it cannot then be a definitional truth that we should do what is good, since neither definition implies the other. In fact we have to choose between the two definitions; and one choice leads to a secular morality, the other to a pointless one. (The argument here follows the lines of the criticism of the ontological argument where its proponents attempt to ensure that God is perfect by definition and also that he exists by definition. The only cake one can eat and have is imaginary.)

It is also quite clear that no appeal to conscience can be a workable foundation for an objective morality since (a) consciences are inconsistent (those of different persons and even that of the same person) and if support by conscience was the ultimate basis for morality, both views would be equally true, i.e., there would be no objective moral truth; and (b) even if everyone's conscience was always in agreement, this would not rule out the possibility that all were in error. The conscience is the name of our moral sense, but like all other senses, it can surely be mistaken, and the crucial question is how we decide whether it is. That question obviously calls for standards of morality that are not conscience-controlled.

Thus there remain to be considered only the ways of sugar-coating the pill if morality cannot be justified, and the possibility of a general justification--i.e., one that will be relevant to anyone, no matter what his interests are.

After considering some preliminary difficulties, we shall embark on the attempt at such a universal justification.

4. Does Moral Disagreement Support Moral Scepticism?

However one attempts to justify morality, the morality itself is a subject of the utmost complexity. Certainly a rational morality will involve almost every factual difficulty connected with discovering the facts about human behavior, plus the difficulty of avoiding emotional bias in an area where almost every such bias is most powerful, plus the difficulty of combining the facts objectively in the moral apparatus. These difficulties have made it plausible to claim that objective justification of moral claims is impossible.

Since ethics is a field in which emotions are very close to the surface, it is hardly surprising the moral claims are frequently based on one's wish to defend one's actions or intentions rather than on pure reason. No one enjoys the sanctions of disapproval or punishment, or the admission of error. With issues of this kind the difficulty of reaching general agreement is no more a proof of the absence of objective standards than is the difficulty of getting the litigants in a breach-of-promise suit to agree on the facts, a proof that there were no facts. The fact that ethical disputes often involve extremely complicated and subtle reasoning, and difficult judgements of fact (e.g., long-range predictions about consequences) provides independent grounds for expecting trouble. In these respects ethical disputes precisely resemble many disputes amongst established scientists about abstract theoretical matters, such as the interpretation of quantum theory or the utility of phenomenological psychology. Thus, although it will be concluded that there are absolute standards in morals in a way lacking in art, this does not mean that a correct single answer to every moral question is now or will on some date be known. The important conclusion is that the correct answers to some moral questions are now known or discoverable, the correct way to discover the answers to others can be indicated, and the correct interim moral attitude or actions can be determined.

5. Is Unselfish Behavior Possible?

Before showing that unselfish behavior is rationally defensible, it is important to define it and discuss the view that such behavior is impossible.

We each have certain interests, wants, needs or desires that do not concern other people directly, such as the desire for food, an interest in old clocks or the stock market. We may also have certain interests in the welfare or downfall of other people, such as our children, the President, our parents, certain Hollywood or sports celebrities, and our business partners. Some of this interest in other people's welfare simply arises from interests of the first kind. Replacing a President or partner satisfactorily would be time consuming and costly, if possible at all;

hence it is better for you if he stays alive and well; so you prefer him to take a break when he feels he needs it rather than have a breakdown. But it is commonly the case that, for whatever reason you first come to value another person, the other person often becomes of some intrinsic value to you (similarly for the opposite feelings). This means that even when there is no prospect of personal gain with respect to your _other_ interests, you are willing to make an effort to further his welfare. This is the mark of what we call 'genuine affection' for them; and it is the sign that, to some degree, and in some direction, you are unselfish.

People have sometimes argued that this is not truly unselfish because in these cases we are still gratifying ourselves, albeit by doing something for other people. But this view confuses "self-motivation" with "selfish motivation." There _is_ a sense in which every voluntary act is intended to be self-gratifying; it involves doing something in order to achieve one's own goals, i.e., is done from one's own motives. It does not follow from this sense that the act is selfish, i.e., that it involves disregard for the welfare of others, except insofar as that welfare contributes to one's interests. The unselfish interest in another is one of a man's _own_ interests, but not one of his selfish interests. The moral significance of unselfish behavior is that it helps others 'for their own sake,' implying 'not for what they or others will do in return'; it is not made less moral by the fact that it gives satisfaction to the doer.

6. _Is Pleasure--or Happiness--the Only Goal?_

A very similar argument to the above has been thought to show that all actions are motivated by considerations of pleasure. This conclusion (hedonism) can be combined with the earlier one (egoism). Everything we do, the argument runs, is done in order to achieve some end we think desirable. Achieving such an end would surely give us pleasure; hence everything we do is aimed at the goal of pleasure.

The natural reply would seem to be that we sometimes do things because we think we should or must--or because we cannot find the will-power to do otherwise--even when it gives us no pleasure, indeed the reverse. The call of duty, prudence, or compulsion is often not the call to pleasure. In replying to this, the hedonist might first wish to restrict himself to voluntary action and hence exclude complusive and compelled behavior. Then, he might say, we must recognize that the holy man's pleasure is the common man's poison; the duty-minded man says it isn't a pleasure to do his duty, meaning it isn't the kind of thing that people usually call a pleasure, but in fact it is simply an example of his peculiar taste in pleasures. For he cannot deny that he does his duty because he values the discharge of duty, and surely achieving a valued goal is rewarding, i.e., pleasurable or at least more pleasurable than the alternatives? The tangle of jargon here obscures the fallacy, which is simply to confuse doing something because one thinks it the best thing to do (and possibly continuing to feel thereafter that it was the best thing to do, from which fact one sometimes derives some satisfaction), with doing something simply because of the pleasure it will give us.

The human animal, like the dog, can learn or be trained to regard the welfare of other humans--or sheep--as a goal, and it can similarly acquire an interest in duty at some expense in felt pleasure. Only if we trivially extend the notion of pleasure to cover the condition resulting from doing anything a human ever voluntarily does, will doing one's duty always be enjoyable. Mostly, it's pretty painful. The hedonist claim is thus clearly false if the terms are used in the normal way. One *can* be mistaken about one's own motives but one can hardly be *always* sceptical about the possiblilty of distaste for and sadness after severely punishing a child or pet of whom one is fond, or of a judge passing a mandatory death sentence when he believes the death penalty is indefensible, or about the pain under torture which fails to make one reveal collaborators in a patriotic revolt.

So it is false, as a simple matter of fact, that all one's actions bring one more pleasure than the alternatives, even when they bring one exactly what one expected. Hence one does not always act solely or mainly to bring pleasure to oneself.

Even if it were true that one always feels *some* expected satisfaction or pleasure after all one's voluntary acts, as indeed one does after many, it would not be true that one always does them *for the sake* of that pleasure, or even *partly* for this reason. It is sometimes said that one can always derive a little satisfaction from the fact that justice is done, even when it is clear that what is done is on balance extremely distasteful, perhaps nauseating, as was foreseen (Billy Budd). But this prospective justification is not what leads one to the action; the motive is simply the urge to do what is right. This is not an incidental aim, a stop on the way to obtain a satisfaction, as buying a ticket to an opera is an incidental aim on the way to obtaining the satisfactions of attending the opera. The 'pleasure' (a grotesquely distorting term for this kind of satisfaction, at best) may not be the real motive at all, although it is foreseeable and occurs. To give another simple example, a good marksman generally obtains satisfaction from pulling off a very difficult shot, but there will be times when this is in no way part of his motive for making the shot. For example, he may be shooting at an enemy sniper with his last round.

A more complex point can be illustrated using the last example. It is not even correct to argue that he will even obtain his satisfaction in all cases; suppose he pulls off a very difficult long range shot when on a deer drive but as the bullet strikes home the target spins around and is seen to be the hunter's best friend. Does the hunter feel a tiny glow of satisfaction which is outshone by the brighter light of grief? No; he feels _no_ satisfaction and _only_ sorrow. So (a) success does not always bring the satisfactions of success; and (b) the satisfactions of success are not always our reasons for attempting a task at which success might in other circumstances be very satisfying.

Finally, even if pleasure was always the chief outcome, and even if that pleasure was in a straightforward sense the purpose of our actions, we could not conclude that pleasure is _the_ goal of life in the sense the hedonist suggests. For just as rationality cannot be the only goal a man has (Knowledge Chapter), neither can pleasure; pleasure has to be _in_ something, it must arise from doing, possessing, admiring, reflecting on or striving for something. If what we strive for is good and noble, the satisfaction we may obtain from the struggle in no way degrades our action from nobility to hedonism. Since we also have seen that goals may be goals for other reasons than the pleasurable consequences their attainment provides, we can conclude that maximizing pleasure is neither a necessary nor a sufficient account of human motivation.

7. _The Paradox of Justifying Morality_

Religious people have long stressed that being moral to escape the wrath of God or to enter Paradise is not being moral in the crucial sense, for it is simply exhibiting prudent self-interest. It is sometimes said that we should be moral from love of God, not from fear of Him or from hope for His rewards. If this is our motivation, it is said that we are then being truly moral. But there are difficulties.

One might put the difficulty in this way. Why is love of God thought by theologians to be a better motive than love of Paradise, or fear of hellfire? It is commonly because love of God is not selfish like love of ease and avoidance of discomfort. But even though this makes it a better motive than some others, it does not make it a good motive, for unselfish love of a non-existent entity or of an existent but evil one are both undesirable. Hence this chain of justification requires the extra step of establishing God's existence and goodness on non-theistic grounds. Such an extra step is impossible because of the failure of natural theology, not because it requires a definitionally impossible task.

But the rational man appears to face an even more acute difficulty. If a rational justification of morality is to be given, it apparently must show that unselfishness is a rationally superior pattern of behavior by comparison with selfishness. That is, it must show that a selfish man has good reasons for being unselfish--if he can by choice--for else it preaches only to the converted. But the only reasons that are good reasons for a selfish man are, it would seem, selfish reasons, i.e., reasons that relate to his own--selfish--interests. So it appears we are faced with the task of giving selfish reasons for being unselfish--which is surely a plain contradiction. Thus it appears that the very attempt to give a universally valid rational justification of morality must fail. Indeed, even if it succeeded, it would in doing so surely fail, since it would have demonstrated that unselfish behavior is really in the best interests of a selfish person, i.e., is not really unselfish. So a dilemma appears to threaten the very possibility of success, before any substantial move has been made. It is a false dilemma. For it proves possible to show that reasons *can* be given to a selfish man that show it is in his interest to abandon the selfish point of view in favor of an unselfish one, just because this is *not* the same as giving a selfish man reasons for here-and-now acting unselfishly. In order to build up the case, it is essential to relate it to the arguments for the advantage of a system of morality for a *group*.

The Basic Case for Morality

8. An Illustrative Example: Army Discipline

A citizen is about to be conscripted into the armed forces of his country which is at war. He realizes that the military training which he will undergo is designed to make him obey orders instinctively, regardless of personal cost or judgment. In particular cases, this will undoubtedly mean that he will have to do things which are not in his own best selfish interests at the time, indeed may cause his death. And there will probably be cases where he will have to enforce orders from above on others, contrary to his rational judgment of the best way to employ or expend them. Sometimes his own view will be right and lives will be lost unnecessarily. Now a thoughtful man realizes that there are excellent reasons for this kind of training, even though the power it gives officers is sometimes misused or unluckily employed. Not only is a democratic procedure unworkable at the field unit level because of the delay involved in discussion and voting, it is sometimes intrinsically deficient. For sometimes the armed forces as a whole can triumph--and the country survive--only if some parts of them can be expended, without a chance of survival, to save more crucial parts or to obtain a crucial advantage. Now the doomed elements would normally lack any rational selfish grounds for agreeing to such a sacrifice. Men being what they are, i.e., fairly selfish, this means the maneuver would often not be agreed on by the field units required to sacrifice themselves. So the war would be lost because absolute power had not been accorded to the general staff. This power is most effectively developed by training subordinates to almsot unconditional obedience--and to unconditional commitment to victory.

For the citizen about to be conscripted, it is clear that his own advantage is served by the fact that the forces are run in this way. His own chances of survival are increased by the efficiency of a disciplined army, and so, of course, are those of his country (and hence his family) as well. He has good reasons to vote for army discipline if it ever became an issue at the polls, even though he knows it has potential risks for himself as a possible draftee. Ideally, perhaps, he would like to have everyone else conditioned but not himself; but that option is not open to him, indeed it is entirely clear to him that the army should be run in such a way as to preclude anyone from avoiding conditioning. By participating, even on the less-than-selfishly idea terms that are available, he definitely adds to the total power of the army and hence to the probability of victory, and the alternatives of draft-dodging or desertion are, of course, considerably less attractive. So there are certainly circumstances in which there are expectations of selfish advantage to be gained by submitting to training that may condition one to sacrifice one's life on command. It is, of course, important that the expectations of this happening be more-or-less evenly spread and tied to emergency conditions. Volunteering for a kamikaze squadron on the day you enlist is hardly a rationally defensible act for a selfish man. But notice that it may be defensible for him to undertake training which sometimes does lead to such patriotic inspiration and valor as to significantly increase the probability of volunteering for highly hazardous duties. For it is a great advantage to the force to have such men available and to his advantage that the force have advantages. Of course, if the increased likelihood of death outweighs the disadvantages of any alternative open to him, then he is no longer rational to undergo the training.

It must be stressed that the discipline system reaps its benefits just insofar as the training is effective. If the training only gets the trainees to the point where they obey orders on the parade ground or when an armed officer is behind them, but not to the point of acceptance of the value of obeying an order just because it is an order, or of victory even when one risks death to bring it nearer, then it will lose some of its largest advantages. The occasions when most is to be gained by the country are often those when most is to be lost by the heroes. On the other hand, the system is not dependent for all gains on absolute obedience by everyone; it shows important profits even with some obedience by some.

Now obeying orders in an army at war is not the same as acting morally, but it is closely related, and the example is instructive in many ways. In particular, it illustrates the sense in which a system can increase each citizen's chances of survival by conditioning each citizen to regard survival as less important than obedience to orders. Similarly, in the usual circumstances of society, each citizen's chances of a satisfying life for himself are increased by a process of conditioning all not to treat his own satisfaction as the most important total. Specifically, a system which inculcates genuine concern for the welfare of others is, it will be argued, the most effective system for increasing the welfare of each individual. Put paradoxically, there are circumstances in which one can give a selfish justification for unselfishness.

There are other reasons for this conclusion, and ways of widening the range of circumstances in which it applies. These will be developed in later sections. In discussing each advantage we shall first examine the benefits for the group and then see how these bear on the decisions of the individual in special circumstances, e.g., when groups of this kind exist only imperfectly or not at all, or when they can be joined under false pretences. For the great difficulty in the justification of morality is the transition from arguments for the group's advantage to arguments for the individual's advantage in following the moral path.

9. The Moral Community--Definition

We have so far argued for the possibility of unselfish behavior and for the key role of such behavior in the traditional moralities. This element of concern for others is one of the main distinguishing features of a moral system by contrast with a system of conventions or manners, which refer to the form rather than the motivation of behavior. It is also of great importance that the moral code is the dominant one, and any justification of morality must justify its claim to priority over matters of manners, codes of honor, traditions and laws. We shall now propose a general principle which has unselfish behavior as one consequence, and which we shall regard as the defining principle and basic axiom of a moral system. This principle may be taken to define morality because (a) it generates a system of rules which substantially overlaps and is elsewhere extremely close to the common element in what have traditionally been called moral systems, and it generates a moral conclusion on most issues that have traditionally been regarded as moral, (b) it can be given a rational justification, whereas none of the alternatives can, and hence it deserves the title of morality in the same way that the currently best supported views about the empirical world deserve to be referred to as "science" and their contraries as "unscientific," whatever their popular support in the past or present. The first consideration justifies calling it _a_ moral system, and the second justifies calling it _the_ moral system, or just _morality_.

We shall call a community (or an attitude, system of laws, etc.) moral insofar as it accepts the principle that every person has equal rights (and the rational conclusions from this and the relevant facts.) To "have equal rights" is to have an equal _claim_ to consideration: and a society with this commitment can only justify divergencies of _actual_ consideration where these can be shown to be required in order better to serve the claims of all. This apparently paradoxical notion is best explained by exhibiting practical examples. It may, for example, be thought of in terms of an analogy with the voting rights of the legal partners in a corporation. These are basically equal right, and are inalienable in that they cannot be bought and sold as such--they must always be exercised by the partner to whom they belong. But of course, he may make an informal agreement (it cannot be a legal one) to vote the way one of the others--or some outsider--indicates; and he may do this for profit or from persuasion that it is the best course of action. Again, he may acquire debts or credits in outside life that affect his voting decisions--for example, he may now decide to, or have to, vote for quick profits or long gains. And he may act illegally in previously mentioned or other ways and thus render his rights forfeit. Obviously his voting behavior can be assessed in two ways; (a) as sensible or not in the light of his personal commitments, and (b) as in the interests of the corporation. In particular, we might say that he has the *right* to vote on the decision whether to install a new type of generating plant in one of the factories, but it would not be sensible for him to exercise that right since he has none of the relevant technical knowledge. Indeed, in cases like this, it would be perfectly sensible for all the partners to vote in advance that such an issue be decided by a sub-committee of the experts among the partners or even by outside consultants. About *this* decision, then, a partner not on that sub-committee would *not* carry equal weight. But there were good reasons for him to give up his immediate power on that issue and--the key point--in making the decision to set up the arrangement which restricted his power, his vote did carry equal weight. "Equal rights" means fundamentally or untimately equal consideration, not equal consideration on specific issues where there are good reasons for all to adopt a procedure which takes more account in the immedicate case of some people's views than others. ('Town meeting democracy' is by no means intrinsically preferable to 'representative democracy.') The question is always whether the reasons for according *unequal* consideration on a particular occasion are derived from principles which accord *equal* benefits (like "let the decision be made by those with the relevant knowledge").*

---

*Strictly speaking, one should say that everyone *does* receive equal consideration in these situations, but not equal *treatment*; for these are cases where the good of all is best served by differential concern with their opinions about the immediate course of action.

The President of the United States has a large secretarial staff, body guard and salary for which all adult residents in the U. S. pay. This is unequal treatment at first sight; we pay and he receives the benefit. But the staff is used to increase efficiency in handling issues which affect us all, to the long-run effect is beneficial to all. Consequently, this is not a case of inequity, i.e., unjust (morally indefensible) discrimination. Similar arguments apply to the body-guard and salary. This shows that not only the views but the welfare of one person might be given preference in a wholly moral society.

A Congressman has more say in law-making than a citizen--but efficiency in serving the needs of all requires a professional government. The universal franchise is the political embodiment of the equality of rights in a moral community, just as due process is part of the legal embodiment of this principle. As now practiced in the U. S., the franchise is by no means ideal, but, properly amended and enforced it may well be the best possible way to protect the moral rights of the individual concerned.** When the constitution of a country or an organization of countries talks about all people being equal, it does not imply they are equally strong, intelligent or virtuous and it does not imply that they should receive equal incomes; it simply means they have equal rights--i.e., they must be given equal consideration in the formulation and appli-

---

**Some of the more notable deficiencies of law or practice involve the very poor, the colored, widely scattered minority groups, the disfranchisement--whole or partial--of residents of capital-states and cities, the young, ex-criminals, and the differential treatment of taxed permanent residents, natives of the territories, and citizens.

cation of the law of the land and the actions of its government and people. Nor does it necessitate that they be given equal votes, although any case to the contrary would have to be very strong to carry weight against popular demand for the vote. Indeed, the prima facie case for an effective equal vote is so strong that the axiom of equal rights, which we have taken to define morality, is often thought of as a definition of democracy. However, the two are equivalent only when a large number of conditions are met, including defensible franchise restrictions, adequate range of views amongst candidates, a certain level of intelligence and incorruptibility amongst the electorate and the representatives, and so on. The matter is further discussed in a later section.

Now what are the advantages of a society committed to morality in the sense defined by the axiom of equal rights?

10. The Expectancy Advantage for the Moral Community

Consider two groups of people who are facing an occasionally hazardous environment. One is composed of rational selfish people (i.e., people who are more-or-less rational in all matters except for the fact of their selfishness, whose rationality is in doubt) the other of rational moral people, otherwise comparable in skills, intelligence, etc. We first consider only the expectation of life, which we assume everyone in the two groups values substantially. Morality implies the acceptance of the equality of everyone's right to life.

Morality does not imply that whatever anyone wants, he has just as much right to it as anyone else does to whatever he wants. For some people's wants are totally contrary to the moral axiom (e.g., the sadist who wants to hurt an unwilling victim) and in general such wants are given low or zero weight in the moral scale, particularly where such wants are under voluntary control or remediable (see below). We begin with a case which involves the right to life just because this must be granted, since it is the essential preliminary to all other wants and needs. It does not preclude the possibility that a man can forfeit this right under a defensible system of law (though attempts to defend such a system--discussed later--are commonly defective). For this reason, we might express the present principle more exactly by saying that everyone has a prima facie equal right to life, i.e., they have one unless it can be shown that they have forfeited it. To begin with we shall take the equality of the right to life to imply the simple majority self-sacrifice principle, which requires a moral agent to give up his own life if he can thereby save two or more others. We make the essential modifications to this principle later.

Exposing the two groups to the same hazards, possibly including war, famine, flood, fire, pestilence and the automobiles, we may expect that occasions will arise when the above principle has application. On each such occasion, at least one more life will be lost in the selfish group, since the selfish individual will choose to survive and in so doing will ensure the death of at least two others. It may be that on the average a thousand more lives will be lost--but at least one more will be.

There will thus be a substantial gain in the expectation of life for the average member of the moral group, and hence a considerable selfish advantage about joining it--assuming you have no guarantee that the hazards will pass you by--even though doing so requires that one be conditioned to accept the sacrifice of self when the need of others is greater.

It is true that there will be occasions in the selfish group when a man will be able to save his life where in the other group he would have to give it up. But these cases, which impinge so strongly on the selfish man's imagination as he contemplates the unselfish life, are completely swamped (at least two to one) by the cases where he will lose his life in the selfish group because someone else acts selfishly. A man's gain in expectation of life will be directly proportional to the frequency with which such situations involve him, and to the size of the average group saved (in proportion to the size of the whole group), and these factors will vary greatly from one environment to another, being very high in war and relatively low in a stable modern peacetime society.

We have so far considered a very crude case. In reality, the gains are enormously increased by (a) using a weighted rather than a simple majority self-sacrifice principle, that is, by taking account of the worth to others of those at stake (and the worth of those others) and the worth to themselves of people in different states of life and health, (b) including cases where two people can save the lives of three, seven the lives of nine, etc., (c) extending the range of sacrifice to refer not only to life but to other values, and (d) taking account of the difference in the quality of the experience between the loss of life for a wholly selfish man, impotent to save himself, and that of a man who willingly lays his life down to save others. Moreover, the selfish group is far worse off than so far appears, for (e) a wider range of occasions will arise when it will cost one man not his life but only a little effort to save the lives of several others--and he will often not expend that effort.

It will be clear, then, that advantages akin to but greater than those with which a high level of discipline rewards an army may be expected by groups which practice self-sacrifice. And these advantages are in terms of whatever each of them individually desires, over a very wide range of such desires. Whatever a man may desire in life, life is always and health usually necessary to enjoy it, and expectations of just these are particularly well preserved and enlarged by the moral society.

It might be retorted that the selfish group is perfectly capable of seeing the point just made and will institute a set of rules and enforcing agencies to ensure that its members do not fiddle while their fellows burn. Such a move, while better than nothing, has four weaknesses compared with the situation in the moral group. The police are not always present, when present they may lack the necessary power, they are corruptible, and they are expensive. (And, morally, it involves a substantial risk in welfare or lives to the police themselves).

In fact, the police can hardly affect the primary case considered above since if the group which could make the sacrifice contains only one man he is either a policeman or not, and in neither case subject to immediate police pressure. So, in all the cases where reprisals for failing to perform the legally enjoined act of self-sacrifice are either unlikely (through ignorance, lack of evidence, incompetent use of it, bribery, rank-pulling, etc.) or less severe than the immediate sacrifice called for, the selfish man will not sacrifice himself and so the advantage still goes to the moral community. This is a large proportion of cases; and to it we must add the cases where reprisals seem unlikely or less important to the naturally biassed agent, and those where there is enough uncertainty about the combination of the likelihood of reprisals together with their size to make the selfish act the better choice. And there are other difficulties, to which we proceed.

11. The Productivity Advantage for the Moral Community

The classical economic argument for the 'division of labor,' i.e., specialization, is very simple. A skilled bricklayer can outperform an amateur by a quantitative factor of from five to twenty, apart from quality of work; the same amateur bricklayer might add figures as much faster than the bricklayer, and more accurately. As a bonus, people frequently prefer to do tasks which they do well or do better than others. An arrangement in which these and others can work at their specialty rather than at everything as they need it will multiply the group's output by a large factor and under typical conditions on the currency, mobility, stability, form of government, etc., these advantages may be expected to benefit everyone to a significant extent. Now one of the tasks we have to perform in a predatory but property-based society is that of guarding our property, our lives and our health. On the division of labor basis and for other reasons it will pay a rich man to hire guards or an army to do this, and in a wider range of circumstances, it will pay most of us to contribute small sums to a police force and perhaps also to an army. If, moreover, contributions are tailored to amount of property guarded, almost everyone will benefit.

To some extent a police force, and its administrative superstructure, underpinnings and correlatives in the judiciary, executive and legislative branches of the government, can enforce on a selfish person the practices to which a moral person is inclined, e.g., by requiring payment of graduated taxes, penalizing culpable negligence and arranging land and pension apportionment systems. But there are many difficulties, of principle as well as practice, in carrying this through to a man's private actions, some of which were mentioned in the previous section; avoidability, corruptibility, power and speed limitations on enforcement, and cost--the direct cost plus the loss of productive workers. Despite the tremendous cost, an external police force usually offers us a tremendous gain. But there is a better way. An effective conscience is simply an internal policeman--inescapable, incorruptible, immediate, and inexpensive. To the degree that poeple can be trained to continue to be moral even when not under surveillance, we have the major advantages of the police without their drawbacks.* This might be called the labor theory of value-intuition or the economic interpretation of morality, and it is certainly clear that the historical support of religion and religious ethics by the rich is not without its rewards on this earth.

Thus, there is another way in which 'instinctive' unselfishness or moral sensitivity (i.e., strong or weak morality) is of value to a society, and social evolution has undoubtedly favored societies which encouraged or inherited these qualities, whatever bad reasons they may have had for doing so. It is important to notice that although we may be sure that perfect moral discipline or unselfish love is unattainable, we also know that striving to instil it is worthwhile since partial success produces partial rewards. There is therefore no basis for thinking that the social idealization we have discussed is irrelevant; the world is a partly moral place and to live in it we have to undergo considerable pressure in the direction of morality. There is clearly some advantage for us and our children in having the world like that, even if we and our children have to pay the price of being brainwashed into semi-morality. But a crucial question remains: wouldn't it be better still (for the selfish individual) if he could avoid this corruption of his noble savage instincts--if selfish desires deserve such glamor--into the milk-sop standards of the slave? Shouldn't he act morally where necessary and selfishly where possible, while trying to get everyone else to act morally so as to benefit from their sacrifices?

---

*The police serve a number of functions for which they would always be valuable, including traffic and crowd regulation, safety, and to some extent social and even moral instruction.

12. The Adaptability Advantage for the Moral Community

From the standpoint of a normally selfish person, the whole prospect of the unselfish life appears to involve painful sacrifices; indeed to most people it appears unrelievedly dreary as well as being entirely pointless as a solitary endeavor. But one cannot judge other ways of life as if they were superimposed upon one's current values; they have their own *values*, as well as their own patterns of behavior. If a selfish person is to be given reasons for the superiority of the unselfish way of life, the reasons must carry weight for him now, but obviously they do not have to involve the assumption that he will *remain* selfish, i.e., that his rewards in the unselfish way of life will be confined to the assuaging of selfish desires. We are not considering what it would be like to *act* like a saint while *wanting* to be a sinner. We are considering what it would be like to *be* unselfish, i.e., to *want* to help someone in need where one can do so usefully, and to be *glad* to be able to help. Most of us are that way some of the time, at Christmas or with children. The question is whether one can give good non-moral reasons for being like that more of the time and with more people.

It is clearly possible to derive real pleasure from doing things for others. And it does not seem irrational to do this if we can. Suppose someone told us we were being irrational in giving Christmas presents to our children when we could spend the money on ourselves. He would be assuming that we didn't really enjoy it, that it was just an act, or that the pleasure we take in it could be shown to be misguided (cf. smoking). But neither has to be true. When we try to evaluate the unselfish way of life as a possibility, it is a simple misunderstanding to think that it involves painful deprivations simply because it involves giving away things that a selfish person would want to keep. And, far from there being grounds for supposing unselfish values irrational, we are developing a rather extensive argument to the contrary. But we are now talking of an advantage possessed by strong morality, in which unselfish behavior is strongly rewarding, by contrast with weak morality, which merely recognizes and obeys the moral requirement, often with something of a struggle. It is clear that progressing to strong morality offers a gain in the reduction of such pangs, although society does not insist that this further step be taken (require it, expect it, punish its absence) as we can with weak morality; we can only advise it, admire it, reward its presence. The society must have (gains the most from) moral conformity; its best way to get it is to encourage moral enthusiasm, which brings a bonus both to the individual (reduction of conflicts) and the society (better conformity, more supererogation). But one hesitates to punish pupils for not doing their assignments the easiest way compatible with meeting the requirements, partly since to do it a harder way is its own punishment. Our goal in teaching the next generation should of course be strong morality, since it brings more benefits and fewer pangs.*

---

*A precise account of the moral attitudes should include some minor points. First, there can be self-denying hatred; but this would not normally be and is not here regarded as a form of unselfishness. The latter is directed to positive consideration of others. It is not the same as selflessness or extreme altruism, where all concern for the self is abandoned; it is committed only to recognition of the equality of the worth of others. The common suggestion that zero consideration for all others would be a case of equal consideration is mistaken--it is not a case of consideration at all, and certainly not a case of consideration equal to that accorded oneself. A commitment to the equal worth of others does not mean that one has exactly the same obligations to every child in Africa as to one's own children. A rational morality is concerned with _efficient_ discharge of the moral commitment (see below).

Just as giving away some material possessions to the needy or working for their benefit is not a sign of something unpleasant about the unselfish life, so the typically inexhaustible supply of situations and people in need of help is not a sign of something dreary or draining about it. Indeed, since these are simply opportunities to do what one wants to do and enjoys doing, they are in precisely the same category as a trout stream in the garden for a keen angler. Of course, if one supposed that the needs of others _always_ have precedence over one's own, one would never have any time for one's own activities; but no such rule follows from the moral axiom.

If cow's milk is hard to get in Kurdestan, it is obviously good rational advice to try cultivating a taste for goat's milk, which is readily available. The unselfish person has the enormous advantage over the selfish one that he derives at least as much pleasure from activities and achievements that are always and easily open to him (and in which others, selfish or not, will encourage him) as the ruthless tycoon, collector, or crook does from the occasions when he successfully defeats his competitors. And this advantage exists whether or not others have selfish views or behavior. Since for every winner there's at least one loser, whereas for every good turn there's at least one beneficiary, the moral group gains at better than a two-for-one rate over the selfish group. Antecedently, not knowing whether one will be a winner or a loser, the selfish group offers less than even odds, and the moral group a guarantee of reward with regard to situations of this species.

Of course, the practices of business and collecting can be undertaken in such a way as to be rewarding to the winner without inflicting more deprivation of the loser than he is sensibly able and willing to risk; and in this form provide socially productive and personally rewarding activities. Competition is a mighty motive, but it is crude to suppose it can only serve unrestrainedly selfish ends. Of course, business and collecting are activities open to a moral man. Indeed, when indulged in by amoral men they are simply more hazardous and not more rewarding.

So the way of life of a saint, even in the company of sinners, is intrinsically remarkably attractive. The truth in 'Virtue is its own reward' is, of course, that it can be. And to the extent that his companions are unselfish, and his admission to their company dependent on his own unselfishness, or to the extent even slight and occasional--that his example or unhypocritical inducements can persuade them to be so, extra bonuses of expectancy and productivity attach themselves to him from the interacting sub-group. In short, a powerful case can be made for taking what we might call the (strong) Morality Pill, which immediately and painlessly transforms one's attitudes. We must look further into the question whether and how a rational selfish man should act in the absence of such an easy means of transformation, and whether other pills would be still better.

The objection might be raised at this point that the above case for the moral way of life only has merit for the timid, the ones who can't make it the mean way. The opposing doctrine, for the sturdy citizen, might be nastily summarized: ('If you can, do them in; if you can't, preach'), but it has a strong attraction--after all, if you're enjoying life the way things are in a competitive and rather selfish world, why rock the boat? There are three reasons for rocking that can be couched in terms of concern to the selfish man. First, there are always great uncertainties about the future, and on any selfish way of life these are magnified because the chief values are the especially variable matters of one's health, wealth and virility or virginity. The moral community provides not only better old age security and children's benefits (expectancy gain) but more old and other age; and it does it for less taxes (productivity gain) and with a built-in income booster and jail-keeper-outer* (the adaptability gain). It is not spineless for a successful man to take out insurance--and the moral attitude is the best insurance at no charge. Nor does it show weakness of mind any more than weakness of spirit; it is almost a standard example of prudence, i.e., rational farsighted behavior. Second, selfish standards have a very strong tendency to run away with the rider: 'keeping up with the Jones' is often the slogan for an endless quest for ulcers. That tendency has been overcome, by those who have mastered or avoided it in themselves, often because they have seen or luckily inherited the value of finding the work itself rewarding rather than just the gains or the winning; the craftsman replaces the collector or the cutthroat. The crucial insight here is that one can always do good work or good works; but if one's goal is to do work that is better rewarded than others, then there is a far greater vulnerability to chance or unjust fluctuations in the scale of rewards and indeed an incentive to bring about the rewards illegitimately with the attendant further risks. The degree of control or insight involved in the orientation towards quality or service is no more than that which can readily (and does frequently) lead to a more humane view of the Jones--and others--with its considerably wider opportunities for rewarding experiences. In short, ruthless competition, even for the successful, is a lean and stringy diet--it forms a valuable element in a well-balanced menu, but is poor fare for total subsistence. It leaves little for the one-third of adult life after retirement, for the one-half of adult life not spent at work, for the family the pure competitor acquires because doing that is a competition too, for the friendship of equals.

---

*Except in a society whose laws are so violently immoral as to require martyrdom in protest (discussed later).

These remarks are not going to be conclusive in every case, and they are certainly not going to convince everyone to whom they apply conclusively. Of course, the question to be answered is not whether they will persuade someone living the selfish life and enjoying it, but whether he is mistaken not to be convinced. Present pleasure is too often overweighted in our considerations. But it is not being maintained that a rational man necessarily forfeits claim to that title by denying that it would be in his interest to become moral. There could be, and perhaps there has been, a person in whose special circumstances the selfish life really provides the best of all lives that are possible for him. He might really be too old to change, or so near death as not to have reason to change. But such special cases are not important for the general question of the best way of life, for we may still say of this man that the unselfish life would have been the best of all possible lives for him. The claim that the unselfish and rational, i.e., moral life* is superior would still be a powerful one if it referred only to men as yet unborn, as yet unmoulded, untrained, uncorrupted. When we talk of a certain career as ideal for someone with manipulative skills and high reliability, we do not necessarily mean that it is appropriate for everyone like that to drop their tools or pens and begin training for it now, at their age. We mean that it appears to be more rewarding to those in it than any other; we mean that if we could start all over again, and could qualify, it would be the best choice. That is the weakest form of the claim for the moral life; and to it we add that almost anyone can qualify, that most people can still qualify, and hence that everyone should be trained as if he can until it is proved that he cannot.

13. The Moral Compromise*

An absolute dictator who was absolutely selfish and absolutely the moral system in order to make a case for its rationality, which we must do to complete the proof of any particular moral judgment.

---

*If the argument of this chapter is correct, the rational life involves unselfishness, but in order to avoid begging the question we here talk (redundantly) of the rational unselfish life, as compared to the rational selfish one (a contradiction, so it will be argued).

*In the course of this section appeal will be made to various moral judgments for illustrative purposes, although proofs will not be given of these judgments. The method for giving such proof has already been indicated--the calculation beginning with equality of rights of those concerned and proceeding by taking account of differences of interest--and more will be said later in connection with specific examples. At this stage it is necessary to elaborate on certain general features of

---

incapable of or heedless about future weakening such as premature death by another's hand, illness, the need for active or passive love, esteem by peers, etc., would not have any need for morality. These conditions have never been met, as far as we can tell, and the chances are now even more strongly against the possibility that they ever will be. That possibility is entirely remote from the condition of the shortsightedly happy but highly selfish tyrant of the office or classroom enjoying his suburban status in a town where he has a fair chance of being mugged, run over or into, or being crippled by disease or error, in a country with a substantial chance of a recession which will put him out of work, in a world with a substantial chance of a war that will kill or ruin him. It is still remote from the condition of the ruthless petty dictators whose fall and death or exile is almost as reliable as their failure to believe it can happen to them. Indeed, the conditions probably apply only to the Devil in a world without God. But they are conceivable--and it should be said immediately that in such conditions there _is_ no reason for that man to take account of the values and rights of others. Morality, Nietzsche said, is for the weak. This is true enough, but in the relevant sense we are all weak. To be precise, we are all less powerful than any significantly probable opposing combination of human and natural forces, and for that reason there is great advantage in the moral compromise for every human being.

A word about the general line of the argument. We are currently talking about ways of life for _a_ rational man. We have previously talked about ways of life for a _group_ of rational men. We have not yet talked about the rationality of particular acts for rational men. The distinction between the Devil and the dictator suggests that the powers required to make morality irrelevant as a way of life are superhuman. But it does not show that a rational selfish man in the midst of life could not have good grounds for a particular immoral action. We are proving the irrationality of particular immoral acts via the irrationality of the immoral attitude which lies behind them; we are not saying that they fail to serve that immoral attitude effectively.

13.1 The Exploitation Ideal

To put it bluntly, the purely selfish man would like everyone else to be his slave but he lacks the power to compel them or the salesmanship to persuade them. His natural tendency is to approach this ideal as closely as possible by finding weaker or more stupid groups he can exploit. This crude realization is of course one of the roots of the exploitation of racial and religious minorities and, at certain stages of economic development, of the slave, tenant farmer, and wageworker. Both kinds of examples provide us with excellent demonstrations of the shortsightedness of the exploitation. Exploitation of labor tends to produce the reaction of large-scale nationalization or simple governmental expropriation (depending on whether one thinks of Europe or South America) or to the sub-governmental reactions of rampant unions--feather-bedding, workrules, pseudo-overtime, intimidation and plant destruction. Exploitation of racial minorities now brings the lucky exploiter (and those who tolerate him) race riots, a poorer economy due to lowered per capita consumption, large unsafe areas due to the crime rate of subsistence slums and the exploiter who pushes his luck collects the Mau Mau through the back door and the land-reformers through the front. Does this happen in the lifetime of a selfish man? Not always; some of the early slavers in Africa made their fortunes and died in bed. Could not a selfish man rationally decide to take the chance? Some chances cannot rationally be taken. A man cannot rationally decide to take a chance on not paying for fire insurance when he can easily afford the premium and can't afford to replace his house. It's a foolish chance to take, for anyone with the usual interests in survival and the usual capacity of enjoying different ways of life. Prudence, which is long-term rationality, is the process of taking *precautions*--taking early steps to guard against unattractive even if unlikely eventualities. The very simplest considerations of prudence have now--though not always--outdated exploitation as a rationally defensible approach, even if the exploiter had no interest in his children's welfare. And a more fundamental kind of prudence, we argue here, requires the prudential modification of the exploiter's attitude.

But cannot the rational man take *any* calculated risks? Of course he can, but not where the stakes are his life and the gains no greater than he can obtain in other ways with less risk. There is not a great deal of difference between the courage of an explorer and the attitude of a ruthless slaver, from *their* point of view. Each sees certain risks and decides the prospective rewards are adequate compensation. Now we can hardly argue that all explorers of hazardous terrain or all mountain-climbers are *irrational*. Of course, there are some who incorrectly assess their own love of danger and discover their mistake. They were wrong but not thereby shown irrational. The rationality of risk-taking depends almost entirely on the exact motivation. A taste for excitement, love of novelty, the quest for new knowledge, are motives with increasing degrees of rationality and social utility as they stand; it is the extent to which they supersede other values, e.g., consideration for others, that is the hidden part of the iceberg. In some explorers, as in the slavers, the motivation becomes immoral because it chokes off all regard for the welfare of others. And it is this aspect of it that tends to make it irrational by decreasing the chance of survival or success. The primary motive is not irrational--only allowing it to displace certain others. In an explorer, for example, the drive to go forward alone can become irrational because it leads to inadequate consideration of provisions for the return journey. And so on. There clearly remain explorers for whom the risks are worth it, who operate rationally within their framework of values, and who would be less happy at home than even on an unsuccessful trip. It is nevertheless not absurd for them to consider the fact that their expectations of life would be greater if they had a somewhat different set of attitude and realized as much enjoyment of life within that framework. To the extent that this is true and the alternative within their power, they are still imprudent. But often enough, the alternatives are not available or the society benefits from their atypical attitude so that we can rejoice rather than reform them, unless we are married to them.

The same initial situation applies with regard to the slavers. There were undoubtedly some for whom this career offered rewards they reasonably assessed as being well worth the risks, whose conscience did not trouble them, and whose community thoroughly supported their activity. For them, the way of life was rationally defensible, given the starting point of an amoral attitude towards negroes. But it seems clear that starting point was never plausible, even in the absence of facts we now possess; it is quite obviously no longer defensible, as appears in the discussion of the 'moral franchise' later. Unlike the explorers' values, the slavers necessarily involved a brutal disregard for others whose differences from the slaver were not clearly greater than the differences between the slaver and his handicapped or subnormal fellow-citizens.

It has been thought to be a filial duty and a prudent act to eat one's parents when they become too feeble to gather food, because it is better for the tribe to kill them than to have them starve and because they prefer it, and because we acquire the virtues of what we eat and all right-thinking people believe their parents have great virtues. The decision whether it was rational for that tribe, in subsistence conditions, to commit patriphagy, is like the decision about the slavers in that it involves two stages. The first starts by accepting their beliefs and judges their actions in the light of those beliefs. The judgment here must surely be favorable, given the fact that the alternative is the death of all. The second stage involves questioning the rationality of their beliefs (cf., the rationality of the slaver's amoral attitude) and here we find it very difficult to make a decision without the most exhaustive research into the habits and knowledge of that time and place. It is clear what kind of data bears on the decision, but we would need to be sure we had a very complete reconstruction of their world-picture before we could decide. It is not, of course, essential that we be able to make that decision; the present situation is what chiefly concerns us. Whatever the final decision, the problem exists of a correct decision in the absence of all the data we need. With regard to that, there is an important consideration which makes past successes by exploiters scarcely relevant to the conclusions of the selfish man today. Once the lessons have been learnt by the revolutionaries, from successful colonial revolt, unionism or civil rights movements, it becomes very clear that even groups with little political power (originally) can successfully develop enormous leverage, given moderate cooperation, ingenuity and patience. Moreover, it is clear that the explicit adoption of definite though humane reprisal pressures against the leading exploiters, at first by such movements, and eventually by law and public custom, could multiply the leverage of moral reform still further. Once the exploited have learnt this lesson, the probability of successful long-term exploitation diminishes almost to zero. The days of the Union of South Africa are obviously numbered.

We may talk here of moral reform rather than mere social reform, because the directions of most rational long-term compromises between countervailing forces tends to be the same as that of the moral solution. To begin with, there is a temptation for the stronger force to consolidate its advantage by pressing for more favorable contractual consideration. This is not only short-sighted in that it breeds ill-will which eventually becomes vengeance when the balance of power changes, but our long experience with this possibility should lead us quickly to incorporate severe penalties in the explicit moral and legal code for such exploitation of a power advantage, penalties which will make it irrational to take advantage of a balance of power. The retroactive reassessment of profits on defense contracts in the U. S., if coupled with substantial fines, would be an excellent example of the institutionalization of reprisals for immoral use of an advantage. There is also an analogy in the use of forced or ill-advised confessions, which recent decisions of the Supreme Court have rendered almost totally useless.

It is not accidental that the social equilibrium should tend towards the moral solution the more carefully it is thought out and the longer the term of consideration. For, on the view here proposed, the moral system is the optimal long run system, applied to attitudes as well as to acts and rules based on present attitudes.

This convergence of the moral and the practical in human relations is closely analogous to the budgeting for research in large corporations, or for quality control in large manufacturing concerns. These practices almost never pay off as well as a big advertising campaign or ingenious refinancing, diversification or depreciation basis juggling--in the short run. But, taking account of the long-run, they are, done and advertised sensibly, the safest bet of all. Here, too, there is a gross historical bias in favor of this conclusion,. as the consumer becomes increasingly well-educated and organized, through the consumers' unions, counsels, and panels, co-ops, mail and membership buying arrangements, college and extension courses, etc. So improvement and quality in the product become increasingly important. As far as nationally distributed stable demand products are concerned it's increasingly difficult to make and maintain large profits from a shoddy product, and in almost no cases easier than the alternative approach. Of course, cosmetics, real estate, novelties, unethical drugs, insurance and many other sections of the market are still in a less desirable state.

The argument here involves no commitment to the inevitability of social progress, it is simply a comment on the existence of some desirable trends. The trends may reverse because long-term rationality is by no means the most powerful social force as yet and would have to be more powerful than the combination of all others that operate against it before progress could be guaranteed. The moral solution would still be the moral solution, whatever happens in fact, so we are not saying that what will happen is right or vice-versa. The moral solution is only the best long-term bet and the best bet doesn't always win; moreover, people don't always make the best bet.

But even if this line of talk isn't totally starry-eyed, isn't it still pretty naive? The way it has sounded so far, the suggestion about the rationality of immediate adoption of or progress towards the moral solution sounds like pro-labor, pro-integration promotion. What would be the other side's view? What might be the reaction of a hard-headed vice-president for labor relations, in the process of negotiating the triennial union contract, and thinking specifically about the union's attempt to get guaranteed employment for all employees with a ten-year standing? He's likely to say two things: "We may have to give it to them eventually, but that's no reason for giving it to them now," and "I don't operate as a moral reformer, I'm hired to make the company's case--and that's the stockholders' case--and it is clearly best served by conserving labor costs." The example and the replies illustrate several points about the moral compromise. First, there is absolutely no way of showing, from the facts given, that guaranteed employment is morally supportable. So the issue may be the entirely non-moral issue of settling mutually agreeable terms for a contract. On the other hand, it may have moral elements if the effects of dismissal on long-term employees who are residents of the factory town are extremely severe and avoidable by proper inventory and sales program planning, or insurable by diversification, etc. without disastrous effects on the company. And the moral conclusion would go against the union's claim if labor is in very short supply near the plant and the action required to handle this contractual commitment by the company will seriously jeopardise the research or plant budgets and hence the company's stability. The company negotiator is entirely right in saying that eventual compromises should not be anticipated--so long as the demand does not have moral backing. If it does, it's probably shortsighted to think that using his power in a labor-buyer's market, to overrule moral obligations on the employer's part will pay off. There are other ways--most obviously, wage level, within limits--where his economic advantage can legitimately be applied. Insofar has he has some freedom to negotiate terms, the fact that he is an agent of only one of the two interests represented in the dispute does not mean he should ignore moral considerations if he can. Not only will ignoring morality be rightly regarded as reducing any moral and semi-moral obligations of the workers to the company (e.g., care of plant, voluntary efficiency improvement, loyalty in market reverses) which can easily amount to ten times the other gain, but the effect on future negotiations when the power balance is different is likely to be disastrous. Morality takes no sides in the long-run; it is universal unionism, but it is also full-scale free enterprise. Its value lies in its neutrality.

Much of what has just been said would apply to violations of a conventionally accepted but rationally unsupportable morality. The difference is that a conflict eventually arises between what the evidence suggests as the most efficient solution and that which the local morality indicates. Up to a point, of course, consideration for people's preferences even if they are irrational is a good rational-moral principle; but at some stage it becomes foolish and indeed immoral to insist on an indefensible choice, e.g., a refusal in this day and age to allow a man to till his own fields on Easter Monday.

Again, much of what has been said is relevant enough in many circumstances, but it may seem to lack force when we encounter the extreme case. There surely are some entrepreneurs who would argue that their dominant interest in life is in the successes of the market place and that they would gladly take the risks of detection to pull off a gigantic if slightly shady deal, which perhaps takes a slice off the tax-collector's pie or that of the featherbedded union man or the wealthy widows of the world. Can this be said to be irrational? Now such people have an extremely strong tendency to forget their own freely entered contractual obligations to and affection for wife and children, who will certainly suffer severely from the jail sentence which is a possible consequence of an action about which they were not consulted. They are compulsive competitors, disregarding considerations which are of great importance to themselves in the long run. But a truly unscrupulous man regards his dependents as merely conveniences for his present life. Such a man spends all his current income rather than put a few dollars a month into a life insurance policy, for, of course, life insurance will only benefit others and he can lie to his wife about this without guilt since it is convenient to do so.

About such a man we naturally speak in condemnatory moral language saying that by such an approach he exploits the rest of society, in his petty way, analogously to the dictator or the criminal, since society eventually pays the bill for his illicit profits if he succeeds and for his family's support if he fails. It follows that there are good reasons for society to take steps against him by the application of sanctions, legal or pre-legal, such as ostracism by the business or consumers' community. Much social pressure to behave properly and support charities is in this way self-protectively allied with the economic advantages of in-group status. In general, then, in a rational group the risks of extremely unscrupulous behavior are simply made so large as to make it irrational. If his peccadilloes are minor, the moral considerations, which are then dominated by the overarching principle of minimizing interference, require only that he be plainly identified as amoral and excluded from the normal trust accorded to the moral man. But his cost to the society in terms of the direct loss of the expectancy advantage and the possible effect of his bad example, which may indirectly lose more expectancy advantage, is still important enough for some mild social pressure to be applied, roughly amounting to a continued reminder of the advantages of the moral commitment in terms of both convenience and increased expectations. In sum, his life should be made unattractive to the degree that he represents a serious social harm. Now, our society has certainly not adjusted its deterrents to the level required for making the predator always mistaken in calculating that crime will probably pay. And at this point we must turn to the fundamental consideration of his attitudes. For even if the risks aren't really overwhelming, they still exist and can be avoided by a change of attitude; or, if relished as such, enjoyed just as much when attached to a less anti-social form of activity. Someone who could prove that no such transfer of motivation was possible for them would avoid the charge of irrationality; but the fact that someone is incapable of the best life does not show it is not the best life. It would be at this point, however, that the overlap of morality and rationality would terminate. His immoral actions could not be said to be irrational ones for him. It should be noted that no one has ever made a plausible case for his own incapacity for moral re-direction.

13.2 The Indoctrination Ideal and the Retreat to Equality

Quite apart from the arguments for self-conversion of full members it is clear from the earlier discussion that a community will benefit greatly if it can encourage all future members of the community to adopt the moral attitude. The new members are mainly the children so this conclusion implies that everyone has an interest in supporting a system which will ensure that everyone's children, including their own, acquire some moral feelings. For the only feasible way of getting a school, court, and public opinion system running or supporting it, which will apply pressure to others' children in this direction involves at least the probability of having one's own children indoctrinated. Now the selfish man would ideally prefer to see this training aimed to make everyone else's children serve him, his own children going into the served or servant category depending on whether he has selfish or unselfish love for them. But there is no advantage in this argument for others* and he lacks the virtual monopoly of power that would be necessary to control them in the absence of any prospective benefits for them. Moreover, he still stands to obtain vast advantages even from the moral compromise indoctrination procedure, which trains all children to view all as deserving equal consideration, and for this compromise procedure everyone else also gains. Thus there is an intrinsic advantage about the moral compromise which is lacking in the exploitation ideal, namely that it represents the optimally attractive arrangement to all rational participants. Unbalance the principle of equal consideration so as to favor a characteristic such as skin color, when no arguments based on the welfare of each can be given for the discrimination, and the system will fail. For it now incorporates exploitation, will lose the support of those discriminated against as soon as they come to recognize this, and probably and properly elicit later reprisals. There was a time when one class could use a myth or power to maintain unjust disparities, but mass education is ending that. Recourse to rational ethics is the only alternative to the see-saw of short-sighted separate power struggles, victories, and reprisals, whether in the field of wage negotiations or international affairs. And rational ethics means the recognition of equality of rights.

---

*Even if they are unselfish, they have no reason to think selfish Jones has any more need of their time than they do, and hence it would not be rewarding. Working for others who want slaves but do not need help is not morality, it's masochism; and since it destroys the expectancy gain there's no case for mass conversion to masochism.

Equality of rights is, of course, the only basis with this 'equilibrium' property and it is for this reason and neither because of some divine dole nor because of an unrealistic assessment of man's equality of intelligence, diligence, or power that rights are correctly said to be equal. Rights must be prima facie equal for the same reason that dollar bills must be prima facie equal; a currency must have a constant unit before it can be used to evaluate differences. Once we can show the need for a moral currency, the equality of rights follows as a necessity, for it is the defining property of morality. The problem is to show that in a world of interpersonal differences there is any sense to introducing an abstract concept of which everyone is said to have an equal allotment. The arguments above are intended to show that the very best system for handling practical problems of interpersonal relations is based on such a conception. The role of equality is that of a baseline; it determines the standard from which deviations must be justified. It is not a claim that there are no deviations. A very similar role is served in the sciences by the basic laws and tendency statements. We say, for example, that the natural state of motion is rectilinear, but we may readily agree that in the whole history of the universe there has never been a single case of rectilinear motion. The importance of the baseline is not to describe the usual situation but to lay a foundation for an explanatory edifice which will handle actual cases. The Aristotelian notion of natural motion as tending towards a state of rest is a much better approximation to a general truth about motion as we see it;

but it does not prove possible to develop a theory on this foundation which will efficiently handle all cases. Similarly, a theory which gave the rich more rights might be a better description of actual practice; but the most efficient social theory allots everyone equal rights, and is not in the least contradicted by gross inequality in the actual distribution of goods and services. In the usual applied moralities, great inequalities are acceptable but not great inequities. Insofar as his intelligence, diligence and power are greater, a man may earn more, own more, or increase his status in other ways, and rightly regard himself as in many ways a more important figure in the community--but not in the minutest degree more important morally. There are ways in which one can elevate one's moral worth, but they certainly preclude regarding oneself as more deserving, since to do that is to reject the moral axiom itself. 'Moral worth' in this sense, in which it can be increased, means moral merit or virtue and not moral rights. The police and the army will (have to) spend proportionately more time protecting a 'big man's' interests (since he owns proportionately more) and the contribution he has to make to taxes in order to match the widow's mite will appropriately be considerably greater. With regard to taxes going to other services, e.g., education, insurance and conservation, which serve the community as a whole, generally returning less to the rich than the poor, the justification of differential taxation is simply that equality of consideration requires attention to the ease or difficulty of a contribution, which is obviously not the same as the number of dollars contributed, but also dependent on the number of dollars left after the contribution. Tax rates should also depend on considerations of incentive, of course, and the exact use of the revenue. Of course, taxing a rich man to support a lazy man is an immoral as tax evasion by the rich man to avoid supporting the police; but as taxes hardly ever go to only one cause, the question whether a particular tax-system is just is usually very complicated. It is indeed an example of a complex practical moral issue almost never discussed in a rational way. Exactly _why_ is it fair--if it is fair--for bachelors to pay school taxes, when no one pays them for entertaining their girl friends? The usual answers or lack of answers from a citizen provide a strong case for the need for a rational approach to ethics.

Criticisms and Refinements

14. Attitude Inertia and Self-Sacrifice

The whole system of morality for which the above arguments hold is based on one moral principle (equality of rights), one argument about attitudes which leads to action according to that principle, and one psychological claim about that attitude. The argument is that the strong moral attitude is an optimal position, i.e., that good arguments support adopting it and no good arguments lead to changing it. As a result it is, and properly should be, persistent. The psychological claim is that people can move towards the moral attitude under appropriate environmental, social, and self-help pressures. The persistence of the attitude when attained, combined with its attainability, are the keys to the problems which have usually defeated attempts to give a rational foundation for ethics. We shall refer to them as the assumptions of attitude inertia and attitude control. They will be the subject of the next two sections.

The expectancy advantage depends on minority sacrifice and a minority that was committed to self-sacrifice only until its turn came up, whereupon it immediately re-evaluated its attitudes and changed them would hardly provide the community with any advantages. We must decide whether this will or will not occur with regard to the moral attitude.

Attitude inertia is not only a psychological fact about attitudes; it is to some extent built into the concept of an attitude. As long as we have what we now call attitudes, they will by definition have more than moment-to-moment stability. They are the basis for moment-to-moment decisions about actions, not actions themselves. Practically speaking, it is difficult to conceive of the mental economy operating at all efficiently, perhaps even at all, without semi-constant dispositions. On the other hand, it will also be a great gain in efficiency, in the dimension of adaptability, if these dispositions are alterable in the long run.

So it is the nature of the reacting and reasoning process that provides us with the property of attitude inertia. Having acquired--no matter how, pill or persuasion--a conception of one's fellow men as intrinsically valuable, one has automatically acquired an immediate reason for doing whatever brings about their welfare, within--as we say--reason. The qualification may conservatively be taken to involve such limitations as 'up to the point of (a) helping those who can and will be better helped by others, or (b) helping others where more can be helped if I do not now spend time on direct aid, or (c) treating others more favorably than myself even when they have no special merits or needs I do not possess.'*

---

*A case might be made for more extreme altruism, but not as a general policy, since it is an unstable solution to the problem of allotting rights. The Christian ethic has been interpreted as recommending extreme altruism and in this version differs from the Jewish. Standard illustration; two men in a desert, one cup of water, all of it needed to get one man to nearest oasis, no other chance of survival. Two good Christians hand it back and forth until it evaporates. The Talmud is often taken to recommend that the man who has it when the facts are discovered should drink it--a very practical solution. A rational morality would require (a) some study of any special claims to preferential treatment, e.g., number of dependents, social value of vocation (b) in the absence of these, the toss of a coin. The only general case for altruism would have to be based on the belief that it is necessary as an inspiration, to get people to the more modest level of morality.

In the case where a man has something approaching the strong/weak moral attitude, he will be acting morally because he likes/_prefers_ to act morally. If someone says to him, "Why not abandon the moral attitude and have more good things for yourself?" he would reply that getting things for himself at the expense of others is _not_ getting 'good things,' and has no attraction for him. Or he might reply, somewhat misleadingly, that he _is_ currently getting more 'good things,' e.g., feelings that his life is worthwhile, than he would if he kept some of the 'good things,' i.e., material possessions, to which the bystander is referring. This reply is misleading because it sounds as if every time he does something moral it is really for selfish reasons ("getting good things"); in fact, it is _because it is moral_. His decision, long past, to accept (or take steps that would eventually lead him to accept) that _kind_ of reason was made for what _can_ be described as selfish reasons, the only ones that counted then. But they don't count any more. It's no good trying to pull the 'more rewarding way of life for you' move to get him back on the straight and narrow path of selfishness, because it's not a reversible argument. The moral life is better, from a selfish viewpoint, than the selfish life, but no corresponding arguments show the general superiority of selfishness for a man now moral. A man now moral is not contaminated by his past, he is not now secretly amenable to selfish arguments because once he was. He is motivationally no different from a man who is moral because he has been brought up that way--and such a man would not be persuaded. However a man gets to be moral, he is moral if he does what's moral because it's moral. So the moral life is a rationally stable solution to the problem of how to live. Still, just as there are odd circumstances in which, e.g., the dictator is rational to remain selfish, may there not be cases on the other side, where it would be rational to abandon unselfishness?

In the extreme case, when what a man is called on to sacrifice is his life, is it not a little unrealistic to suppose that he will not at that time see certain extremely tangible advantages about being selfish? For all advantages, including the pleasures of charitable works, require continued life.

Obviously giving up his life calls for a higher degree of commitment to the worth of others than giving up some time or money. It should be remembered that even if it were impossible that a human being so love another, or his duty, that he would die for another person, the arguments for morality of a more limited scope would still be conclusive. The major moral returns arise from more mundane matters than noble suicide. Yet is is possible for someone to sacrifice, or be willing to sacrifice, his life for others, simply because they will be saved by his act; indeed, it happens often enough, notably in the case of parents and soldiers. In the most frequent situation (as in drawing fire or distracting a predator) the agent does have some chance of survival, but is not greatly affected by this, so long as he knows his action is almost certain to save the other person(s). And there are very many cases where a man has some motivation from other sources (fear of detection, chance of reward, etc.), in which considerations of duty are enough to tip the balance. So morality's advantages are by no means dependent upon everyone being willing to go the whole way simply for morality's sake.

But given that people are capable of supreme sacrifice, partly or wholly for moral reasons, are they rational to do it? Should they not draw back at the last moment?

The Devil, tempting, says; Look, you've had a good life so far, an admirable one as well as a satisfying one. I won't even deny that, in your circumstances, it may have been the best possible kind of life. But your luck wasn't good--no fault of yours, of course-- and here you're facing the end of it all. Now, you surely don't want to get carried too far on this starry-eyed kick . . . it's time (as you used to say) for a rational objective look at the two alternatives. Stay with the suckers and die, or get smart and live, it's as simple as that--something or nothing. As a rational fellow you have to admit that a momentary lapse from grace is a small price for your life . . . and you can more than repay any damage in the years you'll have ahead. In fact, in the long run, with a little remorse to push you along, it's likely to be a definite benefit to society if you take things a little easy now, let up on that moral throttle a bit. And a notable benefit to you. . .

There is no doubt that this kind of appeal will often succeed, because people are often not fully committed to the moral attitude and are not moved in the same direction by other considerations; after all, this is the moment when they have to weigh their commitment to it against all their selfish values. But for a man who has a substantial commitment or a small commitment that's enough to tip the balance of considerations in a particular case, the Devil's appeal has no more foothold than the suggestion to a moderately decent man that he should steal from a beggar's cup because gaining even a little money for no effort is rational. A moderately decent man doesn't want money stolen from a beggar; it is not a value for him. A reasonably decent man doesn't in the least want the million dollars he can get by stealing it from a charity for the indigent blind or paralyzed children. A moral man does not want a life he can have only at the expense of the death of others. This is what it really means to have the moral attitude, this attitude is the one that brings the group the greatest advantages in expectation, productivity and adaptability, and hence provides the strongest arguments for the general adoption and encouragement of this way of life.* Once adopted, to whatever degree (the more thoroughly adopted the more valuable the adaptability advantage is), it becomes one of a man's actual values and it can't be said to be irrational just because it points in a different direction from the others since the case for it depends on this. And it certainly can't be said to be irrational in that there were no reasons for adopting it.

What about the possibility that the probable circumstances of a particular person's life might be such as to make it irrational to adopt the moral attitude? Might there not be some situations in which it is simply frustrating or unpleasant, and not rewarding, and in which the selfish life would be much more rewarding in its own terms? We begin with the easier cases.

---

*One might live up to the highest demands of morality even if one only has what we have called the weak moral attitude. But it is not possible to provide such strong reasons for adopting this attitude and it is not so powerful a guarantee of moral behavior.

For frustration to occur would require that no-one that one could help needed help, that no contributions to the common good by creative work or labor were possible . . . it is hard to imagine. But the possibility is not a real possibility anyway, for a quite different kind of reason. Morality does not replace all other interests, it is simply a further interest, ideally with the potency to outweigh the others in any conflict situation. If the moral interest cannot be indulged, a man has many others on which to fall back and no sense of loss in doing so. For if no-one needs his help, this means that others are well and happy--and from this he directly derives satisfactions if he has the strong moral attitude. If his frustration is supposed to spring from seeing others who need his help but won't accept it directly, there will still be many ways he can work towards changing this impediment to helping them, e.g., by education. Or he may be able to do something constructive other than by doing it for someone who can reject it, e.g., by contributing toward medical research. If the frustration is supposed to come from seeing what needs to be done for others and being unable to achieve it through lack of cooperation or resources, it is no different from the frustrations that beset a selfish man in attempting to acheive his goals. In both cases, it can serve the good purpose of being a good to further efforts or, if allowed to develop to excess, it can become a source of neurotic incapacitation. The latter possibility is simply a defect in one's capacity for sensible living, in no way a special hardship of the moral life.

In general, then, the attitudinal change suggested is peculiarly immune to invidious comparison with alternatives, as far as likelihood of frustration is concerned. Of course, a society which directly persecuted anyone who tried to help others _would_ be an environment in which the moral attitude would be a handicap, but it is hard to see how the society could survive for long enough to develop such penalties. It must be severely anti-adaptive to impose sanctions on the saving of lives or the keeping of promises. The most extreme proponents of individualism might argue that only by punishing moral behavior could we get people to stand on their own two feet. But it is immoral behavior to coddle where coddling is harmful.

There will certainly be particular occasions or particular issues with regard to his stand on which a society will savagely attack a moral man, as many of the great moral reformers have discovered. But the same risk attends any way of life which involves a leadership role and the pinnacles are rarely reached by the rearguard. Besides, true explorers regard the heat and the mosquitoes as occupational hazards; no pleasure at all, but of far smaller consequence than attaining their goals. The man with no ambition may avoid the mosquitoes, but as a goal in life this provides a prospect somewhat lacking in great moments; and, of course, it's obvious that teaching that kind of ideal is no way for the town to get the swamp drained.

Suppose that the prospective convert to the moral life happens to be in circumstances where it is obvious an immediate and severe sacrifice will be required of a moral man. In a sufficiently extreme case, this would constitute a good reason against moral conversion--it is a version of the Great Dictator case, where a straight loss is guaranteed. But the mere fact that a heavy commitment of material goods or of time would be involved would not show there were good reasons against conversion since these are resources whose expenditure on behalf of others can be rewarding to a moral person. Only if it could be shown that one's life or health would have to be laid down could a case be made in terms of the necessity of these for any type of rewarding endeavor. This leads us to consideration of a different kind of counter-example.

We might ask, Is there some other attitude, besides the moral one, which might in a similar way be shown to be even more prefereable? In particular, we should look for any way of life that this kind of reasoning identifies as admirable but which is so absurd a consequence of it as to cast doubt on the whole procedure. A most interesting move of this kind originates from a consideration of the kamikaze or suicide pilots used by the Japanese in the last stages of the war against the U. S. and her allies. These pilots were volunteers who felt that the chance to die for their Emperor by striking a great blow against the Allies was more important than life. Extending the case, might one not argue that the most satisfying possible set of values would be one headed by the value of a peaceful (or glorious, or violent, or painful) death: for this is certainly easy to obtain.* For a selfish man, wouldn't this be the perfect answer?

Here the Devil of the earlier dialog comes into his own. If one makes death, in whatever form, an actual goal, one eliminates all possibility of fulfillment of other hopes and interests, apart from the brief moments of glory before death. The possibility of enjoyment of all other kinds is to be wiped out, intentionally, as part of a 'way of life'--and for what? Not for the sense of achievement that one can get from actions that one considers worthwhile, for one is never in a position to reflect on a successful suicide, glorious or otherwise. Indeed, the only expectations one has, with death as one's highest ideal, is the expectation of contemplating a failure, since only if one fails will one have any experiences at all. If it is argued that the pleasures are those of anticipation, one must point out that these pleasures then become a good reason for prolonging life, and comparable pleasure can surely be obtained from anticipation of goals which are consistent with sustained enjoyment. We are not arguing that given the commitment to a glorious death, he (rationally) should change his mind at the last moment, only that he (rationally) should select another kind of commitment at the earlier stage. Given that his brightest value is a glorious death, it is, from that point on, rational to act as he does.

---

*This example was suggested by Gilbert Harman.

Notice the differences between the death-risk here and in the moral life. In the latter case, we argue that the risk of self-sacrifice exists, but that the gain in overall expectations of reward are more than enough to compensate for this possible loss. Apart from the purely personal point of view, one must also consider the feedback gains through the social loop. There is a substantial extra gain from any other individual with respect to whose moral commitment one has access because of one's own similar commitment, e.g., by using one's own good example in training one's children, supporting general measures which affect oneself. This gain does not exist with respect to the suicide ideal. Finally, in considering which kind of ideals to teach one's children and for which to encourage general sanctions, there are the considerations of expectancy, internalization of law-enforcement, etc., which make the moral ideal best. Notice that the kamikaze pilot may be taken as exhibiting a highly moral ideal (since his motive may be patriotic) whereas the straight death-as-a-way-of life line is simply selfish. Indeed, the main value of the kamikaze example is to show the relative ease with which a commitment to the ultimate sacrifice can be made even when there are no redeeming long-run expectation gains.

These explorations of the nature of commitment thus do not appear to weaken the case for moral commitment, but rather to strengthen it by revealing its function more clearly. The comparison with theistic commitment is worth noting. Moral commitment involves no commitment to untrue or unsupported assertions. It does involve a claim with unusual logical properties, the claim that others are of equal value, which reflects not a discovery about other people so much as a discovery about the relative merits of different ways of regarding them. A man may come to regard others as things to be valued (ends in themselves), for reasons which appealed to him just because he did not so regard them, i.e., from the 'benefits' the belief brings. The theist may commit himself to theism for exactly the same kind of reason--but in his case it doesn't make the claim true, because the theistic claim is not simply a claim about a man's best attitude. It is a claim about the existence of a special kind of being. To say theism is "true for him" simply means be believes it, although it isn't, in fact, true; no such abandoment of reason is involved in moral commitment. Non-theistic religious commitment is very like or is a form of moral commitment, and the only difficulty is that there are usually several divergences of such a position from the moral position we are discussing, and no way to justify them, such as the Buddhist ban on alcohol.

15. Attitude Inertia and Some Moral Puzzle-Cases

We have seen that the benefits of morality are essentially connected with the nature and consequences of the moral attitude, not just with the nature and consequences of moral acts or principles, and this general point has specific consequences which provide a basis for treating some famous moral puzzles. We will begin a discussion of these with an example which is easier than they are, but provides us with a useful lead-in to them.

Should a soldier _always_ obey the orders of his superior officer? The treatment of war crimes has made clear that common moralities draw a line at _some_ point. But it is, of course, extremely important to instil in the soldier a readiness to obey even when he does not understand the reasons for the orders, or indeed when he strongly disagrees with them. This line is not usually thought to include any duty to perform apparently treacherous acts without explanation, or to require the active improvement of methods for murdering prisoners (Nuremberg Trials). For the benefits that accrue to the moral group from the commitment to instant obedience will be cancelled out by the losses if the area of absolute obedience is extended into the territory of the most terrible crimes. In order to reap the benefits on which survival depends we take the calculated risk in time of war of instilling obedience which will extend to bad or immoral orders. The mere fact that the inertia of the obedience attitude will undoubtedly carry obedience too far on some occasions--where it isn't obviously wrong to obey, but actually turns out to be wrong--does not show that the attitude is to be abandoned. Indeed it does not even show that _on those occasions_ the soldier was wrong to obey--he was right, though a civilian might not have been. It follows that an officer must explain orders which appear absolutely improper, whenever there is time to do so, or not expect obedience. This in no way extends to orders which simply appear tactically wrong or involve sacrifice, for those, it can be seen in advance by all parties, are the domains where training to instant obedience pays off.

Now for the puzzles. You are at the bedside of a dying friend. He tells you that he has a more recent will than the one at his lawyer's office and he tells you where it is. He asks you to promise to take it to the lawyer. You promise to do so. He dies happy and you now discover that the new will transfers the huge estate from a charitable and educational trust to his worthless spend-thrift nephew, who had always managed to conceal his defects from his uncle. If you destroy the new will, it seems clear to you that a very great benefit to mankind will ensue; if you keep your promise, only a wastrel will profit. Your friend is dead and he died happy--you can no longer consider the effect on his feelings or his welfare. Does not the kind of moral position advocated here require that one break one's promise, indeed make it an obligation or even a duty to do so; and is that not seriously at variance with what a man with some moral sensitivity would feel? For even if he was not certain you should keep your promise, he would certainly deny that it was your duty to break it.*

Several points are involved. First, a considerable number of relevant facts may not be known to you. The nephew may have been bound by documents already signed to act as a trustee for the money, sitting under a responsible board; the estate will thereby provide him with worthwhile employment and still go to good causes. Such a possibility, and there are many others, would alter the whole complexion of your action, and these possibilities form an important part of the reasons why a commitment to keep promises, even when doing so appears not to be for the best, is and should be a consequence of the moral commitment. The utility of this commitment is not for maximizing expected gains but for minimizing possible losses; it is an investment in safety, not for maximum yield. The dead man may have told others of the existence of the will or of other copies of it, and merely be using you as extra insurance. Your suppression of it will not prevent its adoption and will probably involve you in serious legal difficulties. (The attempt to consider cases where all such possibilities are absent is unrealistic and hence not productive of genuine counter-examples.)

---

*The relevance of ordinary moral sensitivity is two-fold. First, a rational morality overlaps with many traditional moralities, and hence the finger of a conscience steeped in one of the traditional systems may point the rational way. Second the moral sense, like the grammatical sense, is immensely more sensitive than any explicitly formulated set of rules so far devised, and so, given the first point, deeply deserves our respect while we are attempting to formulate an adequate set of principles.

The system of morality is designed to operate in this world, not in one where knowledge of all relevant circumstances is complete, and the capacity to calculate their consequences and weigh them correctly is perfect. Promise-keeping is worthwhile just because it provides us with the greater certainty of a man's control over his future actions to replace our uncertainty as to whether the outcome we want will come about in some other way. It is part of a system which maximizes expectations, but such a system must have parts whose justification is that they perform a function necessary to ensure that goal for the whole system, not that they each serve that function themselves. The safety valve on a steam boiler has the aim of reducing pressure, the exact opposite of the aim of the whole system, but it is an essential part of any effective system devoted to providing high pressure. Similarly, the system of moral principles contains many items whose role is crucial to but only contributory to maximizing expected gains*, not directly aimed at that goal.

Put from another point of view, the key question is not the consequences of your alternative actions in terms of the welfare of those directly affected, but the question of the general utility of being able to trust someone who makes a voluntary promise. Having the institution of the trustworthy promise is very like having the institution of unquestioning obedience in the army. Part of its value is that it can be called on and counted on when there is no time to explain and justify (or when secrecy precludes this), and when it is important to ensure that later inconveniences are not to be allowed to interfere with the promised performance. Naturally, one of the results of this institution is the occasional occurrence of unfortunate consequences--but the same is true if we eliminate the institution, so it is only a question of which alternative permits fewer disasters and provides more convenience. It must be remembered that there is no compulsion to make promises; they are an optional institution. If someone asks you to promise something, he is judging that on this occasion he wants unquestioning obedience and asks you to bind yourself to this out of your willingness to see his needs as important. His need is to have his wish *obeyed*, not just *promised to be obeyed*. Indeed, the moment that he cannot count on obedience without explanation, later justification, etc., much of the value of the institution vanishes. Once it is clear that being able to count on others to keep verbal promises has considerable value for people in certain circumstances, and does not lead to preponderantly bad consequences, then it is clear that the moral attitude which commits you to take account of what others want automatically commits you to carrying out promises.

---

*In all the preceding discussions we talk crudely of 'maximizing gains for all,' but the only way in which we can appeal to this as an argument with impact for each individual requires that we construe it as involving strong protective principles which place safeguards--amounting to almost complete bans--on the extent to which the welfare of individuals may be sacrificed to further the welfare of others. The Pareto restriction, which does insist on the ban, is too extreme in any case, but particularly because welfare, for its purposes, is calculated in terms of the present set of utilities of each individual instead of in terms of the most satisfactory of the various alternative sets of utilities to which he can move with an effort that does not outweigh the consequent advantages. The concept of justice emerges partly from these individual-oriented constraints on maximization and partly also from the desireability of protecting useful motivations.

Up to a point. Just as there must, rationally, be limits to the soldier's obedience, there must be limits to what a promise commits one to if the value of promise-keeping is not to become a liability. So a great deal depends on the particular circumstances of the puzzle case. There are *certainly* cases where one would have to--indeed, one *should*--break one's promise, for example where (a) the lives of several people would *obviously* be endangered or lost by keeping it, perhaps because of acts unknown to the dying man, and (b) a minor whim of dotage appears, on the most careful examination, to be all that is at stake. The point of this discussion has been to show that the values involved in promise-keeping are not just those which accrue on a particular occasion, but those of the institution itself as a useful device in a society; and to show that this utility, properly analyzed, plus moral concern, obliges one to fulfil a promise even when the results appear somewhat contrary to the welfare of those involved--though not in all such cases. Just as the officer will be wise to explain orders which apparently command treachery or grossly gratuitous cruelty, so the promise-asker should try to explain demands to perform an extremely questionable action. When he does not, the fact that he is a friend often implies that you know him well enough to have grounds for believing that a good explanation exists. It is also probably true that the emotional and contractual commitments between you are stronger than between strangers so that you are more inclined to do what he asks even where it involves considerable difficulties for you. These factors are the basis for trust and for making it more of an obligation to obey somewhat questionable promises to friends than to strangers, in an imperfect world.

Similar considerations apply to the case of the judge who must decide whether to condemn to death a man he knows to be innocent when the alternative is certain to lead to the lynching of ten others, or to the start of a very bloody revolution. The inertial attitude here, analogous to the obedience and promise-keeping commitments in the previous cases, is the commitment to justice. It is clear that the utility of the adjudicatory branch of the law is sensitively dependent on the extent to which it applies the law without prejudice, e.g., recognizes the antecedent equality of the rights of the litigants. Any discovery that the law is not being applied justly undercuts the control of lawlessness by opening a loophole through which the criminal may (or may hope) to escape by bribery, the use of an eminent, titled, or Aryan front-man or the selection of Jewish or negro victims--in short, by exploiting whatever weakness the system of justice has turned out to possess.

Why are such preferences in the administration of the law weaknesses in a system of justice, granted that they are often illegal? Because of (i) the prima facie desirability that the law should be applied exactly as it is passed by the legislature, apart from any inconsistencies with previous legislation; since that is what the legislature intended and for which they presumably had good reasons and for which they have the authority; (ii) the desirability that the law not be held in contempt, as is a law whose application can be evaded by devices. These are separate considerations from those pertinent to the question whether the law itself is unjust. In morality as a whole, the importance of justice is chiefly that it is the procedural embodiment of the principle of equal rights and hence a keystone in the structure of applied morality.

The importance of justice makes it extremely desirable that it be administered by those to whom its importance is an intrinsic value, so that they will be prepared to disregard bribes, threats, and inconveniences. For them to do this requires no more than the moral commitment plus recognition of the necessity for justice in the application of morality. But we need them to go beyond the mere perception of their task as a derived obligation; the attainment of justice must become a commitment in itself for them. We do not employ or appoint them as legislators or moralists. For occasions will arise when their ordinary moral judgment will be that the ends of society will be best served if they act unjustly, and it is of great importance to the system that in the usual examples of such cases they should stand fast by their duty despite the advantages to others that appear to be gained by abandoning it. One might describe such examples as the moral mirror image of the selfishly rational but immoral act cases; here it is a man's unselfish motives that lead him to do other than he should. The need for an autonomous commitment to justice arises because the judges are not well-placed, entitled, or supposed to make the difficult long-run evaluation of the cost to the enormously valuable institution of justice of their aberration, and each of these shortcomings leads to bad consequences. This is not just to say they may err, though that is an important part of it. In a case described above, it is not in the least obvious that saving the ten who will be lynched by sacrificing the innocent man will guarantee a long-run gain, for the reaction to the mass lynching may be enough to arouse the society to the point of taking drastic action that will save more than ten lives in the future. Even in the case where a revolution will occur, it is not at all clear that the judge is in a position to be sure that is a long-run loss. Even if the long-run effects appeared most clearly good from this failure to do justice, it does not follow that men would be better served if in such circumstances all judges abandoned their commitment to justice. And that consideration enters since we are all concerned as to what attitude or values to recommend and adopt. Apart from the fact that judges will often be mistaken, if the practice of spot decisions on the apparent merits became the standard judicial practice, the calculations of miscreants would soon include this fact and could thereby make further inroads into the territory reclaimed by morality from our savage alter egos. Complex and expensive 'covers' could be arranged to deceive judges into making erroneous decisions on the spot, e.g., a kind of wild extrapolation of the present abuses of psychiatric testimony to induce sympathy in the particular judge. Worse, the deviations can become cumulative through the pressure from the thin end of the wedge. There may be excellent intrinsic grounds for making a single exception (more to be gained than lost), but if this is done once then the simple principle of justice requires that it be done for any like case. But if this is done for many 'like cases,' the law has effectively been changed and the new law may not be arguably better than the old in terms of consequences, because people now begin to act with a new baseline of illegality and the losses from this swamp the small gains from the merciful exception to the old law. Hence an attitude oriented solely to the best calculation of the consequences of particular acts, even on the basis of equal rights, cannot be generally encouraged, hence cannot be the best one for judges and thus for men in general, and hence cannot be the moral attitude.*

---

*The categorical imperative and the generalization theses in ethics, and rule-utilitarianism, agree on this conclusion, but are either wrong or unclear about the reasons for it, or deny that there are or should be reasons for it. The bases for the commitment to the intrinsic value of justice (for example) include the peculiar equilibrium property of the principle of equal rights which implies the impropriety of discrimination; the impropriety of the obligation to justice; the social necessity and advantages of a common moral training; the practical importance of uniform procedures; the need for overshoot rules to achieve the indispensable minimum; and so on. There are rarely simple or single reasons for basic moral principles. But another weakness characteristic of the traditional utilitarian approaches, oversimplification apart, is the failure to see the difference between the best decision, calculating in terms of the consequences for all involved as they *are* at the time, and the best decision calculating in terms of that *attitude* which is itself determined as best by calculating in terms of the good of all who *may* be involved in such issues.

The moral attitude, we now see, must include those attitudes such as love of justice, truth and promises, which must be added to the basic other-valuing attitude by the discovery that the other-directed consequences of people having such attitudes are better than the consequences when people lack them (i.e., have *only* the other-valuing attitude). One might argue for amending the initial definition of morality to include reference to this complication, but it is just as satisfactory, and simpler, to see these other commitments as part of the consequences of moral commitment and hence as part of the moral commitment.

Thus the time for boldness in a judge is when he is threatened in the performance of his duty, not when he contemplates abandoning it. The inertia of his commitment should carry him far into the realms of personal doubt. It must indeed carry him far into the realm of personal certainty that more good consequences would result if he would act other than in the way which justice indicates. Yet he can be rationally sure that what he does in acting justly is *right*. We have argued this despite the fact that the judge's doubts will sometimes be justified and his action not productive of the best results; but we shall also argue that extreme cases exist where the obligation to justice, even by the judge, must be regarded as overthrown. Justice is not to be replaced by the judgment of the best action in terms of the presently determinable consequences, or even the actual consequences, but nevertheless justice is justifiable in terms of its role in the whole structure of morality, which is itself justified by its good consequences.

This apparent paradox has seemed to many philosophers to necessitate a commitment _either_ to justice (deontological theories) _or_ to justification in terms of consequences (utilitarian theories). But the two can certainly be connected (not combined), in the way indicated in the last footnote. How do we justify denying food to children between meals? By appealing to the fact that by refraining from food they now want, they will in the long run and overall enjoy their food more. No paradox for parents is involved; and for justice the case is analogous; not quite the same. The optimum system of moral attitudes, rules and practices requires a commitment to the just act at the expense of an alternative which would maximize benefits on a _particular_ occasion. Morality is an edifice whose superiority over enlightened self-interest springs from the mastery of a breakthrough in building principles, like the move to the arch which yields far greater strength by a process of developing two pathetically unstable drooping columns until they lock together on the keystone. The judge's temptation is like the temptation to span the half-completed arch with a straight beam; he thereby achieves a gain in strength which is not illusory, is entirely permanent--but less than optimal. It is with the rights of those not yet involved, as well as those who are, that we must be concerned in defining the moral act and attitude, and those not yet involved are better served by incorruptible justice, whether the corruption be from selfish or unselfish motives.

There are certainly cases where there is in one way no continuity of personnel or influences into the future; where, perhaps, the judge is deciding his last case before retiring or dying. But still the decision affects others, will itself be known, its inconsistency with the judge's past practice may be uncovered, etc., etc. Where all of these possibilities are conclusively excluded, one suspects the case becomes pretty unrealistic. But it simultaneously does approach the region where a commitment to justice should not supervene over simple other-directed calculations.

Where is the point at which we can justify injustice? Where is the point at which we can give reasons for acting unreasonably? The point is not marked on a mental roadmap. It is only certain that it lies far beyond the point where the immediately obvious considerations suggest it to the man without moral commitment, and well this side of the point where the whole system of morality would collapse. We have done little systematic thinking on these questions, being content to stand in awe as novelists, playwrights and philosophers ingeniously and tellingly present the poignancy of the dilemma or the excesses of the extremes. And armchair thinking is not enough; the answer must depend heavily on complex questions of fact about the effect of different inertia levels on societies and on subgroups of different kinds. We can only make an educated guess here, as in so many moral problems. The test question is indeed 'What would it be like if everyone in this position acted in this way?' but, of course, there are a dozen ways of describing or perceiving "this situation" and "this way" and the real difficulty is to decide which of these to stand on. But so it is with almost any practical problems today: the rules available won't do all the work. One can't choose a career or a wife except from a foundation of startling ignorance about the most important facts, and a set of rules all of which are known to be widely honored in the breach. Where choices must be made, the extent to which they are guesses is unimportant beside the extent to which intelligent analysis of the alternatives can improve the expectations of success. Improvement of the chance of being right from 1% to 3% is a larger gain than that from 50% to 99% in the sense that matters, for it triples one's chance of success rather than doubles it. The good side of extreme ignorance is that bigger improvements are possible, and rationality offers them.

So the present analysis yields an account which meets the objection that calculations of the consequences usually lead to abandoning justice in favor of expediency, without committing us to the view that justice is unsurpassedly important. (Similar arguments apply to duty, obligation, loyalty, etc.) Moreover, it does so without breaking the chain of arguments leading back to the individual, as do more formalistic theories. Defended and interpreted as above, the commitment to justice (by judge or layman, in their different degrees) is seen as defensible in the same way as, and as an extension of, the commitment to the value of others.

16. Evolutionary Ethics

A rational analysis of the consequences of the moral attitude thus leads to allotting a greater weight for justice than would a procedure of calculation of immediate consequences, even a guaranteed-accurate one. This valuation is in accordance with the instinctive morality of many cultures, a fact which calls for explanation. One may speculate that certain major features of morality, of which this is one, have sufficient advantage for the group that recognizes them to make such instinctive discriminations survival characteristics in the evolutionary process of a social creature such as man. This possibility suggests that we be constantly on the alert for instinctive reactions in the moral area for which no good reasons are explicitly recognized in case they are signs that more careful analysis will uncover an advantage for those who share them.

We may surely suppose that the maternal instinct, which is in one respect just a non-intelligentual special instance of the moral attitude, is a survival characteristic for those species in which it occurs. But the survival of the race (meaning interbreeding group), for which evolutionary processes select, is only a goal of morality insofar as it is moral to value posterity. At first, that seems an open option rather than a moral obligation. But, since humans commonly love or have obligations to their children and their children's future happiness usually involves the welfare of their children, there is an automatic commitment to the future of the race even if this was not in itself a matter of some pride and concern to many people, childless or not. Similarly, the childless are chained to children as other humans and thus to their future needs including the need for the comfort of their children. But the future generations are not the only point of morality. For a suddenly sterile race, morality still has much of its meaning and all of its force. They are indeed just people for whom there is no hereafter in any sense, and the absence of a racial hereafter is no more fatal to the point of morality, than the absence of a spiritual one. Analogously, the discovery of a pill that makes those who take it happy and content but sterile would, except for special circumstances, such as previous promises to bear children, provide a perfectly moral way of life for all of mankind.

We have been talking of what might be called 'evolutionary ethics,' but not in the sense in which it was construed to mean a justification for the exploitation of the weak by the strong. That crude theory attempted to make a value out of what happens often but not universally in the non-gregarious animals. Morality creates a higher value, in a non-trivial sense; it creates a very ingenious survival mechanism for individuals that transcends individual survival drives. The use of this distinguishes man from the animals at the level of efficient social behavior, just as his intellectual powers make that distinction possible at the levels of abstract thought and technological achievement. We have not yet progressed very far in the direction of making the functions and formulations of morality explicit objects of study in the way that led to such great success in the natural sciences and crafts. At the practical level this manifests itself in the extreme crudity of the present level of development of the machinery for international peace-keeping. Precisely the same problem presents itself here as led to the formulation of national legal codes, with the stakes substantially increased, i.e., the need to abrogate the right of individual violence in order to increase the chance of individual survival. But our failure to recognize the pragmatic basis for inter-personal morality makes the international problem appear as if it were wholly novel, and the short-sighted kind of discussion persists that characterizes a group of children squabbling over toys.

17. The Formulation and Interpretation of Moral Maxims

Even a casual study of man's perceptual and intellectual processes reveals that their operation is far too subtle to be described as the application of any rule formable in our present language, or indeed in any extension of it up to the limits on length imposed by the need to comprehend the rule. One can speak good English or play good bridge without being able to state the rules for doing so in a way that will ensure that someone following those rules would speak or play as well. Similarly, one may develop a remarkable sensitivity to the moral distinctions of a particular interpretation of morality without being able to state the rules of the system one may be thought of as applying implicitly. One of the main reasons for this is the enormous complexity of moral situations, i.e., the enormous number of morally different combinations of factors that can bear on many social situations. In areas of our experience where this kind of relevant complexity occurs it is still very useful to formulate approximations from which to work as a preliminary guide-line and this is the function of most moral rules. "Thou shalt not kill" is simply a starting point, like "Don't end sentences with a preposition" or "Don't trump your partner's ace." These can alternatively be expressed as "Killing (etc.) is wrong (or bad)". There are plenty of exceptions; but the exceptions have to be justified by special considerations. As we have previously remarked, the same analysis applies to the laws of physics. The General Gas Law is a useful approximation and can be appealed to as true (enough) for many purposes. For refinements, we add the van der Waal correction; and where that still yields insufficient precision, further corrections. Depending entirely on our needs for accuracy on a particular occasion, we may or may not have to make one or several further refinements. The first approximation is both mneomonically and communicatively handy.

The prima facie justification of the basic rule against killing is very simple--most people value their lives very highly and hence benefit from built-in protection for them in others' attitudes. Consideration of the advantages of radically altering this attitude towards their life shows no gains, chiefly because of the dependence of other advantages on survival. But minor alterations can be justified, so the rule that killing is wrong must be construed as just a rough guide, not a universal truth. For killing in self-defense when there are no feasible alternatives is an exception, since the love of life is in general stronger than what one stands to gain by taking another person's life. The self-sacrifice rule in turn interjects an exception to the self-defensive rule in the case where the other individual's life is at stake and his value to others is greater, (or where several others' lives are at stake). In the same way, despite a prima facie commitment to helping others, or others in need, the moral man in an immoral society is in no way obligated to give hand-outs to anyone who asks for one, even if they need it. Indeed the reverse is the case, since it is clear that rewarding laziness or making it harmless is normally contrary to the interest of both the individual and the society. So there is excellent basis for the general higher-level principle that the obligations to others only begin when the resources of the recipients are reduced to a risky level. A society does not run better if the industrious (or fortunate) and benevolent men beggar themselves to feed the lazy--and that is why it is not part of unselfish morality to do this. It is of the utmost importance to recognize the foundations of moral adages if they are to be interpreted and applied correctly. The most obvious proof of this emerges from examination of the response to changing conditions. If we are taught moral maxims as undying truths about some abstract realm of moral values, we shall have excessive difficulty in adjusting to changed circumstances. Inertia is of some value, but needs to be rationally assessable.

As a case in point we might take a contemporary example. Perhaps the most interesting novel moral problem in mid-20th Century America arises over the conflict between the principle of aid only to the needy, which we have just been discussing, and the economic problems of overproduction. It is all too clear that an oversimplified conception of the inviolability of moral principles (that is, excessive attitude inertia with regard to these rules) is leading the rich to imagine themselves exploited when their contribution to taxes is partly used for substantial compensation and retraining programs administered without extremely rigorous (and hence much more expensive) investigation into the qualifications of those assisted. Shocking tales of able-bodied loafers with TV are passed around with the canapes in Santa Barbara and Greenwich, Connecticut. The other side of the issue might be put, crudely, by saying that unless the rich are taxed and the money used to make consumers out of the otherwise indigent, the rich will lose more income (because of the drop in market demand) than they do from paying taxes. Putting it another way, it's entirely right that the devotedly lazy man should be on relief since he'd otherwise be filling a valuable space on a production line and not doing a good job. It is still an advantage (and becoming a privilege) to work in this economy, for anyone who does not set great store on laziness, because life on relief is extremely poorly recompensed. It may not be a duty to consume and encourage consumption, but it sure helps a capitalist economy; so apart from the moral consideration, the dole is a better treatment of unemployment than starvation for both the rich and the poor.

To see the necessity for a change in attitude about work, consider the possibility that automation will result in 75% unemployment. Will the unemployed be 'lazy good-for-nothings,' or even the 'unforunates'? Clearly not. The slogans, phrases and attitudes of a labor-poor economy are irrelevant to a consumer-poor one. Suppose that a gradual increase in the level and type of unemployment benefit raises it to the point where it makes possible a way of life that many people find very pleasant. Will that have 'corrupted their moral fibre'? It may destroy some of the incentive to get a job, but since there aren't nearly enough to be got, is that bad? The revolution towards this eventual state may well take place without being clearly recognized, e.g., by reduction in the working week, increase in the normal years of education, vast developments in the recreation, conservation and assistance fields so that more people will find work and play indistinguishable. What matters about people is not what they do to earn their money but what they do; and we shall just have to work out a system of appraising people which makes that distinction less dependent on their employment status than was appropriate a generation or two ago. Even then, too little distinction was made between the money a man earned entirely owing to his own efforts and that which he earned because of the good start he got in life owing to his parent's wealth or influence or education, or which he got because he was one of the lucky ones in the vagaries of the business market. Money from luck, or from others--whether parents or the government relief funds--is equally irrelevant to merit.

All this is said from the point of view of the internal state of the U. S. economy. Take the U. S. as a spottily rich country in a world of poorer ones, or take a good look at the poverty spots in the U. S., or at those suffering from disease or mental disorder rather than economic handicap, and we must concede that there are still many obligations to the community of man that make idle consumption indefensible, by rich or poor. For there is still much need to do something worthwhile for those who really need help. So, on the moral grounds alone, the dole should be safeguarded, the foreign and domestic Peace Corps expanded vastly, internal and international development and assistance funds increased. And such endeavors can be supported on both a voluntary and a paid basis: to be unemployed does not mean to be incapable of doing worthwhile and rewarding work. Thus we can still find value in the condemnation of laziness, as long as it is not identified with unemployment.

The educational system in this country is too much influenced by a wealthy class that imagines itself knowledgeable about economic reality and morality because its members have money, a degree and no jail record. (One might as well assume that the best-paid professors are the best teachers.) This influence is probably the main reason for the general ignorance about the cruder facts of economics and morality, which presently makes federal intervention a necessity. Cancel federal taxes and call for voluntary contributions to support the armed forces, education, charity, and economic controls and aids, and the country would be destitute and conquered within a decade, and who really doubts it? Yet there is constant advocacy of this and related measures by eminent politicians of both parties. Even long-term self-interest is beyond the average man's capacity today when fat short-term gains leer invitingly. Couple this lamentable defect of will with gross deficiencies in education about the most fundamental issues of morality and economics and the result is a nation whose only hope is the capacity of its elected representatives to educate themselves in office, to transcend the offered bribes, the pressures of propaganda, and the short-term charms of re-election, and to apply rational long-term unselfish considerations. The prospect is fascinating.

This necessity to switch from the work-as-duty to the work-as-privilege attitude is intended to illustrate the importance of retaining enough flexibility to rethink our attitudes and re-express them in new moral rules. The changes due to advancing technology and education can undercut a system very fast, and nothing undercuts it faster than a parental generation producing attitudes that were appropriate in an earlier stage of the society, when the children can see perfectly clearly that the facts no longer support such attitudes towards, e.g., gainful employment, premarital intercourse, religion, negroes, Japanese, etc. So attitude-modifiability is crucial; but it is also essential that our attitudes be rigid enough to survive under pressure. The tension between these considerations is often the force that drives the moral rack. A balance between them must be struck, and somehow expressed. So there is a double difficulty. For, even if the best way of life were known, it would undoubtedly require simplification in order to be expressed in an easily understood form and there are always many ways to simplify a truth, some of them contradicting others. But simplification is necessary, not only to make it easier to teach children and to remind ourselves of the truth, not only to make discussion more effective by providing us with useful approximations of various degrees of refinement, but also because attitudes are somewhat indelicate instruments and the cost of commitment is imprecision. Attitude inertia is desirable--but we pay something for it that the phrases "blind loyalty," "blind faith," and "blind obedience" convey. The commitment to 'higher values' comes hard at first and to make it possible we have to sacrifice some refinement in the analysis of consequences, countervailing considerations, etc. Sometimes all we can train ourselves and others to do in the way of justification is to appeal to some very simple general principle or value: "It doesn't seem fair" we say, or "That would be stealing," implying that justice should and theft should not be done.

Thus we must regard moral maxims like the Ten Commandemnts as doubly dubious guides. Of course, they cannot be devastated by pointing out a few of the apparent counter-examples, such as justified stealing. It is of the nature of such principles to state norms (i.e., what is normally or properly or ideally the case) not exceptionless general laws. But they may still be wrong in basic conception and they may be wrong through over-simplification. To decide whether they are right is very difficult just because it requires an exhaustive analysis of the current interpretations of the rule as evidenced in the circumstances in which it is applied and the procedures for justifying exceptions. "Thou shalt not kill" has been interpreted as a prohibition of killing flies, hunting deer for sport, slaughtering cattle for food, suicide, euthanasia, and abortion. Now a moment's thought about the rational justification of the rule shows that there is something very odd about applying it to these cases. The rule is an attempt to preserve what is usually the highest personal value of members of the moral community. But in the cases described, what is being terminated is something not wanted by the only person who has any legitimate interest* in it. So the assessment of a moral maxim like this will depend very much on whether killing is taken to mean "the taking of a person's life against the person's will." And in addition there is the problem of acceptable excuses and acceptable degrees of simplification. In assessing existing maxims there is also the problem of confusion due to myths about their source which may lead to further divergence from any rationally defensible system.

---

*"Legitimate interest" here means (roughly) an interest of such a kind that the attitude of respect towards it offers prospective net benefits for the community in the long run.

Behind such issues of interpreting and assessing moral maxims, or as the primary problem of application, there lies a basic issue to which we must now turn. To whom do moral rules apply?

In its basic form this is the problem of the moral franchise. What are the limits of the moral community? Who should heed them or be treated in accordance with them? Who is to be treated as equal? Servants, slaves, morons, infants, unborn babies, juveniles, animals, bankrupts, bankers, kings, extra-terrestrials, intelligent robots, communists, fascists, sadists, psychotics, criminals?

18. The Moral Franchise: Who is equal?

The inertia of the moral attitude can obviously carry us into difficulties and it is of great importance that its blunt ways be refined as far as possible, without significant loss of its advantages. No exact rules can be given for weighing the importance of, e.g., the dispensing of what appears to be justice against the importance of apparent consequences. We can only attempt to teach the right answers from discussion and training based on many examples, as we teach the writing of grammatical English. But there is one task for which rules have seemed more feasible, the task of describing the limits of the moral group. And whether by rule or by training, the limits must be known if morality is to be fully applied. So it is of great interest to examine the problem of the 'proper' attitude towards (a) swatting flies, (b) pulling off their wings and (c) breeding them for the sole purpose of feeding ornamental goldfish--by comparison with analogous treatment of microbes, plants, dogs, adult women, the aged, and other minority groups. It is easy to state, and even to make precise, the rule that only humans (or white humans or free humans or intelligent humans) should be accorded significant rights. The only problem is to decide whether it's true.

Recalling the arguments for the moral attitude towards others, we notice that some of them depend on the potential gain in contributions from and for prospective members to the group, and others on the advantages for the individual of certain standpoints from which to assess potential experiences. Let us examine one example of the way in which such considerations apply to the franchise question. Why should we feel obligations towards the terminally or life-time sick and insane? (including upon occasion the obligation to kill them). Certainly not because of the potential contribution of these individuals to the group. But the advantages of a certain attitude in a group which will probably exist for several generations include those where roles are exchanged. It is because of the desirability of Good Samartian insurance for ourselves or those whom we love (the 'immediate' group) that care for the indigent can be defended.* Membership of the immediate group, however, is a highly contagious condition. For if you care for North and he cares for South, whom you do not know, you have automatically acquired an interest in South's welfare--and similarly in South's sons and daughters, friends and colleagues, and their friends, too.

---

*The reader must constantly remember that morally grotesque notions such as defending care for the sick are a rational necessity when assessing or formulating morality, and only an absurdity when, having determined that the move is a sound one, we shift into the moral gear.

Blood may not always run thicker than water, but add the ties of blood to the bonds of friendship-chains and you have a substantial chance of being under an obligation to any stranger you meet on the street. Thus you have some direct or derivative interest in the welfare of most of the people you know, and it is a great benefit for all of these people you know, and it is a great benefit for all of these people to have Good Samaritan coverage. The only feasible way for this to be arranged is by supporting the pressures towards morality on as many as possible, which in the usual circumstances means allowing the same pressures to be put on you (and your immediate group). Doing this, as we have argued, also provides gains of other kinds (adaptability, peer-esteem, sanction-avoidance, etc.). So, of course, people *should* be kind to the unfortunates.

Unfortunate *people*, that is. But the most reliable sources assure us that our chances of turning into an elephant or a mouse, now or later, are exceedingly remote. So why be nice to mice?

Normal Western mores countenance trapping or poisoning pests, including mice, but draw the line at deliberate or careless cruelty to them. But a substantial minority, perhaps disproportionately female, join many asiatics in regarding even such 'defensive killing' as unjustified. Another minority, including the Hopi, think wanton cruelty to small animals is not a moral matter at all. Who is right?

The four basic considerations bearing on our attitude towards animals are (i) that preserving the simplicity of the negative moral attitude towards casual infliction of pain and the positive one towards rewarding loyalty and service is important; (ii) that the chain of affection can extend into the animal kingdom through people to whom we may be linked even if not animal lovers ourselves; (iii) that the cost of kindness is in general small or zero and its benefits--in terms of the adaptability advantage or peer-esteem or training efficiency--is sometimes considerable; but (iv) still a point comes, sooner with mice than men, where the cost of equal treatment is too great since the potential gains for including a mouse in the moral community are simply not comparable with those a man offers. Together, these considerations rule out the extremes implied in a literal interpretation of St. Francis' phrase 'little brethern' (which he applied to his lice) and the more recent whom 'treat them like animals', which usually refers to practices that are not defensible even for animals. When it comes down to such pressing practical questions as whether it is really immoral to eat turkeys at Thanksgiving or use inexpensive neck-breaking mouse-traps, rather than expensive, slightly less effective, live-catching traps (releasing the victims somewhere out in the country) we must concede that a final resolution may not be obtained within these pages. But the lines of thought that must be followed out are clear, and become highly important when we generalize such problems into the issues over vegetarianism and blood sports.

In such cases two important but unsettled empirical questions concern (i) the effect of callousness towards animals on interhuman attitudes and (ii) the extent to which this effect is unavoidable. The answer to this and associated questions about ease of learning determines the weight we should give to the first factor in the list above. Lacking definite answers, we must use a precautionary strategy, discusses below. But there are other important points. There is the question of consideration for the sensibilities of others (the second factor in the list), which is relevant even when those sensibilities are misdirected, up to a point. (For a morality that only took account of the preferences of totally reasonable beings would have remarkably little value for us.) There are the adaptability advantages of affection towards animals and birds which are obviously exemplified in the pleasures afforded to many people by their pets. Related but not identical with this source of reward from animals is the obvious benefit provided by those animals which serve or can serve men directly as carriers, guardians and hunters, and can thus be said to 'deserve' consideration, and the avoidance of wanton cruelty, on almost the same basis as the human servant, and those which do not. But even if the animals do contribute directly to the labor force, and even--within limits--to the police force, they are certainly limited in their intellectual powers and hence their general utility when new circumstances arise, calling for intellectual and moral decisions. Indeed, they never become moral agents, only the agents of moral agents; they never have moral duties, though their duties may be moral and we may have moral obligations to them. So the network of moral attitudes binds us to treating animals as having some call on our moral sensibilities.

Does this not mean that killing mice to keep them out of the kitchen is highly immoral? Is not this precisely like the treatment of slaves by the amoral slaveowner--ruthless when convenience dictated, kind when it suited him, that is, recognizing no rights at all? (For to recognize an entity as having rights implies that one acts more favorably towards it than if one's own convenience were all that was at stake.)

There are important differences. Nothing is held to excuse wanton cruelty even to minor mammals, so they are morally accorded a degree of respect which distinguishes them from slaves regarded as mere objects of convenience, as automata. The justification for this is partly in terms of the negligible importance of the pleasure and conveniences associated with wanton cruelty compared to the possibility that cruelty once tolerated becomes an increasingly casual matter. Small loss, some expectation of substantial gain. Now when a substantial practical difficulty arises, such as contamination of food or destruction of the house structure, and no alternative except the painless extermination of the pest will suffice, the cost of extending the franchise to animals may be held to outweigh the risk of debasing character (in this case by making killing acceptable), upsetting others, reducing possible gains from affection, etc. Of course, there usually is an alternative, like the live traps discussed above, but here the practical inconvenience of carrying it out must be weighed against the small differential in preserving the attitude related to morality that is involved. These are empirical hypotheses that are being weighed and our present state of knowledge about them is minimal. It has been widely held that the hunter or trapper does become a less moral being towards his fellow men as a result of his occupation. But it has also been widely denied. At the moment, it would be impossible to argue conclusively for either position, let alone its extension to the household pest level: but ignorance of consequences does not make a moral decision impossible, or even more difficult, it simply leads to a different one.

The attitude towards animals that we have just described is very like the attitude of what used to be called 'the more enlightened type of slave-owner' towards his slaves. And it is very like the attitude that many people have towards those who are in their power for emotional rather than political reasons--our "devoted slaves" as they called themselves in earlier centuries. Affection--to a point; consideration--to a point; beyond that the wasteland of exploitation or disregard. Indeed, it is very close to the attitude of most people, the distant alien people they never see. It is enlightening if not edifying to reflect that there should be so much similarity between this and the attitude of small boys and experimentalists towards rats.

The emergence of the concept of universal human rights is not entirely a discovery of what was previously true but unrecognized; it is partly the creation of a new social arrangement more suited to a society in which education has become widespread. For once people begin to understand their own powers and see their long-term interests for what they are; a universal franchise is quite clearly the only workable arrangement. It is the most stable balance of power--although this is neither the only root nor the only flower of the moral system. The lesson that the wolf-pack learnt took man a long time to express linguistically, but once it has been done, and as long as memory persists, the system of social relations can never revert to the master-slave stratification. It is the fact the animals lack an inferential language and the intelligence to reason with it, rather than that they lack power, that keeps us from having to extend the franchise. "Insects of the world, unite" would be a chilling war cry, in face of the vast disparity of numbers--thousands upon thousands for every man. That a group has learnt the lesson of cooperative power is not the only reason for extending the franchise to them, of course (cf. the sick), but it is a completely sufficient one. This lesson, that led to the labor unions and to the few political revolutions that have aimed at and achieved freedom, is simply that if all will commit themselves to sacrifice for the common cause, the chance of sacrifice being needed will be reduced and the expectations of other gains vastly increased. A minority, if it stands together, has enormous power in an industrial society. In the limit, a single totally committed man has the colossal power of a rifle or a bomb. If there was one politically-motivated lunatic exploiting this power in every million citizens instead of one in a hundred million, every generation, this nation could probably not maintain its present form of government.

To what extent is society at the mercy of sane but ruthless members or groups? And to what extent does the universal moral franchise increase this susceptibility? Of course, a single man can selfishly exploit society for his own ends if he is already in a position of great power such as the Presidency. And he frequently does, in many countries. But the system of checks is moderately effective with regard to most long-term villainy in the U. S. and can certainly be made so elsewhere. But any two or three committed men could present a desperate threat to the nation, if it were not for a couple of practical difficulties which lead to a general point. If each could count on the others to keep to the bargain they could draw lots for the role of assassin-elect and blackmail the nation with a promise of Presidential assassination. They could demonstrate their power with a near miss or a success followed by the suicide of the assassin and the repeat of the threat--whether to the same or a later President is unimportant. For it is still--and probably always will be--extremely easy to assassinate the President if the assassin has little concern for his own safety. But exactly the attitude required for willingness to profit from such extortion counts against the trustworthiness of the agent whose lot turns out to be drawn. The other practical difficulty with this plot, which would trouble even the survivor, lies in collecting and enjoying the ransom. The bond between the members of a self-interested assassins' group is thus too feeble to be analogous to that bearing on the moral attitude, especially because it is specific to one plan and one period of time. The moment that we shift to the case where the assassination is motivated by considerations of principle, e.g., as the only way to break the grip of a despot, then it can be seen as a cause that is good in itself, deserving of sacrifice, etc. When benefits for others are part of the calculation, the assassin can have a motive that transcends the risk of death; and hence most assassinations are politically rather than selfishly oriented. The assassins' group is too small to exploit the rest of the country; but a small group can do it, at least for a while, like the whites in South Africa, or the Roman citizens in the Roman Empire.

The Romans had quite a respectable in-group morality, which they had no trouble at all in not extending to the slaves. But they were aided in getting this past their consciences by the fact that this arrangement occurred as part of the natural evolution of social structure. If today one attempts deliberately to set up a basis for discrimination on a foundation of mere advantage, one has a trade-association, union or crime syndicate and not a morality. Synthetic gems are still synthetic and that knowledge can affect their value even when the stone is the same. We know too much to be innocent exploiters, and those we would exploit know too much to make it easy. And yet we still try hard to cheat--for the use of prisoners-of-war in labor camps in recent wars is pragmatically hard to distinguish from the Romans' practice.

If slavery today would be immoral why doesn't it follow that the use of mousetraps is immoral? Is it just that it's easier to identify mice visually than negroes? In the first place, in terms of our earlier discussion, the casual use of cruel mousetraps isn't immune to moral criticism. In the second place, there are certainly intrinsic differences which make swatting flies and crushing microbes considerably less wicked than killing people, and thus suggest that killing mice isn't quite so bad as murder.

Begin by considering microbes. What does a microbe lose when killed? On the one hand, all that he has. But on the other, very little; a basic consideration must be the extent of an entity's awareness of and feelings about life--otherwise cutting flowers and pruning trees becomes cruelty. It's not true that what you don't know you have you can't lose; but it is true that if you don't know what it is to have you can't know what it is to lose. This argument applies equally to the avoidance of pain, the desire for life, and the more sophisticated values. So we deprive the microbe of nothing of any possible significance to 'him.' As we move up through the jellyfish to the molluscs and the mammals, the argument becomes less decisive but not insignificant. This doesn't mean that a snake values its life, except metaphorically, but the metaphor comes closer to literal truth as the organisms more clearly exhibit pleasure and pains instead of just reflexes. It is marginally plausible to say that a snake likes sleeping in the sun and dislikes being hit with a stick. Of course it treats the first as a goal and the second as something to be avoided. That's not enough to show it enjoys the first and dislikes the second. The further element in this claim is the capacity of the organism to perceive its own condition (cf. Man chapter). It is not accidental that the hierarchy of intelligence is about the same as the hierarchy of sensitivity, for both depend upon the capacity for symbolic representation and discrimination. So the snake may be a marginal case and the snail sub-marginal, but the mouse is surely sensitive to pain and fear and deprivation. Taking life at all may be a little wrong, but taking a full life is more wrong. To stamp on the skull of a small shrieking mouse without thought, or to cheer the choreography of ritualized bull-slaughtering is surely to show a lack of the sensitivity to similarities that is an important part of moral reasoning.

We have noticed some important differences between a compact to crime or even an organization designed to exploit its power advantages in the long run, and the moral commitment of mankind. An interesting further point emerges from the case in which an assassin's group threatens to kill the President and demands money to refrain. To pay the sum demanded would encourage repetition of the crime and disregard of other laws as well. Not to pay probably costs the President's life. There again we have the difference between the immediate-calculation best choice and the long run best choice. On the small scale, this is why there is such a difference between the viewpoint of the police and those approached for ransom in a kidnapping case. The police are concerned about the long-run frequency of kidnapping, and this will be reduced by refusal to pay the ransom. The ransomee is more concerned with the welfare of the kidnapped person, and this will usually be best served by payment. It is not pure selfishness that motivates the distraught parent, but it is certainly an overbalance of affection for his own kin at the expense of the kin of others.

This situation demonstrates one of the substantial benefits possible for the participants in moral subgroups. If any subgroup can make a binding agreement in advance not to pay any ransom, and publicize this, it will ensure its safety from kidnappers. Now, simply getting its members to put up a large sum, even their entire fortune, as a bond on this covenant will certainly not prevent them from cracking under the pressure of the moment. But each member of a group which has absorbed the group point of view (perhaps without commitment to the general moral attitude) will be committed and the protective system will work as long as would-be kidnappers believe the group to be men of their word.

Similar agreements with respect to other kinds of threat can be much more widely used than at present; their success in the form of labor unions should be taken more seriously. Returning to the original point, the power of a subgroup to enforce its will on the majority is materially reduced in a society where considerations of the general welfare are paramount, since attempts to exploit immediate anxieties will be largely unsuccessful. Nevertheless, even a very small minority--be it the doctors or the truckers or the filibusterers--have an enormous power if they apply themselves to the problem of maximizing their leverage with intelligence and subgroup-selfless commitment. Even if two men cannot hold a rational nation to ransom for the life of its President, one small group can threaten to and often does use its power to cause billions of dollars of loss to the nation as a threat with great effect. The careless, ruthless or disproportionately selfish use of such power cannot be tolerated by a nation any more than the careless or ruthless use of strike-breaking forces. The arbitration of industrial disputes is consequently an extremely difficult and important task, requiring a combination of morality, diplomacy, technical and legal knowledge that is not generally receiving the recognition and rewards it deserves. An exception which deserves more attention is the arbitration court system of a country with compulsory industrial arbitration like Australia. Settlement of strikes by labor-management negotiation simply encourages sacrificing the consumer whenever possible, and so is intrinsically deficient. The fact that two disputing parties are represented doesn't mean that all interested parties are represented. The horrified protests about government intervention in such negotiations are simply rejections of what should be the consumer's representative.

In power terms, then, the minority is vulnerable to persecution but also capable of dictatorship. The only compromise that has any significance beyond mere expediency is the system of social justice in which each man has the right to equal consideration in the making of those arrangements which lead to differential treatment with regard to recompense, security and the conditions of life for him and his. Thus to the degree that men exercise their vote rationally and knowledgeably the right to an equal vote will yield greater benefits than any other arrangement. To the degree they do not, they destroy the advantages of the universal franchise, with one important qualification. Contrary to the view of political snobs, commonly heard today, the existence of many voters who are stupid, prejudiced, or short-sighted does not make democracy a foolish system. For the justification of democracy today lies largely in its superiority over any feasible alternative, and not in its intrinsic perfection. The self-interested election of representatives, even by an imperfect electorate, has a long history of superior performance by comparison with the self-professed disinterest of rulers, as a means to the discovery and enforcement of a fair solution. When legislators appear who can demonstrate their own transcendence of self-interest and superiority of understanding, then they might have reached an appropriate starting point for discussing the drawbacks of the universal political franchise ensuing from defects in the electorate.

The present states which call themselves democracies are all defective to varying degrees, sometimes enough to offset the theoretical advantages of a democratic system over a reform junta, for example. So it is not the deficiencies of the electorate but of the leaders that are matters for present concern. As for the future, the participation of a well-educated and well-informed electorate in the selection of its representatives may well engender enough further commitment to outweigh any imperfections in its rationality. But 'education for citizenship' is, of course, an absurdity without education in morality. Any country which does not recognize that morality has no foundation or justification except as a solution to the problems of social living will have great difficulty in generating good citizenship in either its citizens or its leaders. For the alternative accounts of morality are contradictory, inherently implausible, and only indirectly connected to social behavior.

In concluding these arguments for the universal moral franchise among men, it is important to recall the great advantages that automatically accrue from increasing the size of any cooperating group--increased total power, increased specialization possibilities, decreased unit cost of goods, etc.; plus the special advantages of a larger moral group--increased availability of unselfish help and friendship, decreased likelihood of knavery and unprofitable conflict, etc. The qualified extension of moral consideration into the non-human domain is justified in somewhat different terms, greater weight being attached to the benefits of positive reinforcement and less to the group productivity advantages, apart from the points discussed earlier. A quasi-morality is often extended to machines, e.g., by those who love their boats or cars. The case for this as an option is similar to part of the case for the animals: machines do not suffer, but they do respond to loving care, and make good pets besides.

With very complicated machines, not yet existing, full moral equality may be mandatory. Equality of political franchise has both moral and practical support, since it provides the individual with a defense of his own interests and the government with a representation of the populations' concerns.

We now turn to the problem of the practical consequences of the commitment to equality. Does it imply that one should love others' children as much as one's own, for example? It is often held that the ideal of treating all mankind as equal is self-stultifying since if we really worried as much about each of the starving thousands of distant lands as about the indigent poor of our own city, neither would benefit; we would have to send our aid to the far land, since a greater number with greater needs are there and for just that reason it would do negligible good.

But there is an excellent moral and practical basis for the adage "charity begins at home," although it does not support the extension to the conclusion that charity ends at home. First, it is absurd to suppose that there is ever an obligation to do something which is demonstrably futile. It is demonstrably futile to spread your little charitable gift amongst a very large number of the needs because none will benefit significantly. Your obligation is to determine the size of a significant contribution and allot as many of these as you can reasonably afford to the most needy individuals, or donate to an organization that does exactly this. Second, it is important that there should be the least possible wastage through administrative costs and corruption. This can usually be achieved by purchasing and often by administering the gift yourself, except when certain orgainzations are given special leverage, e.g., a dollar-for-dollar or transportation-charges-only call on surplus farm products. Hence there is a second good reason for local preference (assuming reasonable parity of individual need). You are in the best position to help your neighbors and hence have the strongest obligation to do so. Third, other emotional and moral springs besides the pure sense of duty can aid in providing the energy or motivation for giving; local pride, mutual friendship, the pleasure of seeing the good results you have brought about, etc. Less than perfect as we are, it is often sensible of us to employ against our weaker selves all the leverage we can develop from less noble sources. We should strive for the moral attitude, but we are not wrong to amplify the feeble signals of conscience with a feedback circuit of a more mundane kind. Fourth, some method of selection of moral tasks must be employed and there is merit in using one which has a tendency to increase the moral level of the recipient. And gratitude in the recipient can effectively be incubated into tangible moral output later by the presence of the benefactor. Fifth, there is a tiny element of moral sense as well as common sense behind the application of patriotic considerations to this problem. So long as the survival and welfare of one's own national or local group is important or strongly contributory to the furtherance of other good causes, so long is it morally appropriate to bend one's efforts first towards repairing its own defects in order that it may more effectively proceed, by means of example and practice, to more direct contributions. And apart from that lofty consideration, it is, sixthly, simply sensible to protect the welfare of the group which can most effectively protect or assist or tolerate you, and to a small extent this is involved in aiding local or national charity. Nor are such considerations immoral, for morality does not deny a man's right to self-protection and his own interests where they do not involve disregard of others. But it is obviously immoral to refuse to give foreigners surplus grain that will save them from starvation on the grounds that it will lower the world asking price, for lives or even basic health are substantially more important than profit. It is indeed indefensible to refuse aid in the form of other goods and services even though they might be used at home for relative luxury, although the need abroad is very much more acute. For even if one did not defend it explicitly and immorally by denying the moral equality of foreigners, the long-term effects of single-minded concentration on the lesser hardships of compatriots rather than the greater hardships abroad is an implicit denial of this postulate. Even prudential considerations count against moral isolationism, for the poor grow stronger eventually and do not remember kindly those who ate caviar rather than gave alms. And there are rich rivals to help them get stronger if we do not. In short, the international realm is increasingly indistinguishable from the interpersonal one. Where the balance of forces rapidly shifts and many issues are at stake, with some difference in the alliances on each, morality is not far behind prudence.

We normally distinguish three levels of moral performance; (i) refraining from gratuitous immorality; (ii) discharging obligations or duties, and (iii) acting meritoriously, nobly, etc. ('doing good works'). The distinction reflects itself in the combinations of praise and blame for doing or not doing these things. No praise is due one for not stealing a raincoat from the racks in the college corridor, and one is blamed for doing otherwise. One deserves some praise for keeping a promise when it has been inconvenient to do so, and will be blamed for not doing so. But to exist at subsistence level in order to support some waifs in Hong Kong is said to be 'above and beyond the call of duty'; to be a 'work of supererogation'; here praise is due, but blame for failure to act thus would not be thought appropriate. The distinctions are essentially a concession to man's limitations insofar as they go beyond considerations like those of the discussion on our obligations to neighbors v.s. strangers. A man who is moral in the strong sense cannot stop short at mere duty, he cannot _excuse_ failure to do more, when he _could_ do more, on the grounds that it is more than duty requires--at least, it is a very feeble excuse, as everyone recognizes by their embarrassment in turning down direct appeals for charity in worthy cases. Since we would go further, if we truly loved others as equals and since there are good grounds for doing that, there really is an obligation to go further, though clearly it is a less stringent than the direct obligations to do a clear duty.

When we are training children or attempting to train those not properly trained as children, we _do_ praise them for not stealing or lying when something was to be gained by dishonesty, because this abstention represents a considerable achievement _for them_. And praise is not just descriptively appropriate for someone overcoming difficulties on the way to acting in a desirable way, it serves as a reward and thus aids learning. For just these reasons, in a company of highly moral men it would be inappropriate to issue praise for what now seem to us quite meritorious works, though their works would be none the less _good_ works. In that company of men, to do only one's duty would be a sign of moral deficiency, disappointing, indeed, it would seem, blameworthy. Hence, in that company, our obligations would be greater. Thus the distinction between acts of obligation and of supererogation is chiefly dependent on the individual's capabilities. Now, we all have some long-run control over our capacity to be moral, and clearly have an obligation to increase it. So there is a perfectly good sense in which everyone has an obligation to do all the good he sensibly can, now, and a long-run obligation to do all that he could if he were as much better as he could (and should) be. In practical terms, this means that we are usually acting immorally in purchasing luxuries instead of contributing the money to those with very great need for the elementary necessities. This is a hard standard to meet, but a good one at which to aim. It is no harder to defend in utilitarian terms than in the religious ones which have previously led men to adopt it as an ideal. So long as we are weak, of course, it can perfectly well be argued that we need an occasional luxury to keep up our morale, or, in prospect, as an incentive to that productivity which indirectly benefits us all. But our 'need' for this is more a product of poor upbringing--or of laziness in thinking out an overall attitude to life and implementing it in a program of self-reform--than of anything essential to the nature of man.

A certain amount of the political enthusiasm for the right-wing position in the United States, with its low tax and anti-welfare emphasis, arises from the need for a rationalization of selfishness, just as a certain amount of the enthusiasm for the left, with its welfare legislation and a steeply graduated income tax, arises from the need to rationalize envy of the rich and powerful. The right wing's rationalization attempts to show that a true concern for the individual's rights and welfare would lead to a reduction of the role of centralized government and hence taxes. It inevitably fails, in those terms, because the left wing is not arguing for the desirability of government as such; it is only arguing for the amount of government that, in the light of the known limits of spontaneous justice and charity, is necessary to safeguard individual interests and rights. Conversely, the left's attack on the right as embodying disregard of human suffering is valueless at that level of generality because the right feels that in the long run human suffering is decreased by emphasis on individual responsibility and obligations, even if at first this means more suffering. The debate is essentially about a matter of fact--the relative effects of two different emphases--about which we have no conclusive evidence. Consequently, it tends to be dominated by the participants' emotional predispositions, and these in turn are markedly affected by the individual's selfish interests. The danger arises when it becomes widely believed by either side that this is an issue of fundamental values with regard to which the opposing position is essentially immoral, or at least anti-democratic. And who does not prefer to think of himself as a champion of liberty and equality, rather than of one side of a highly uncertain wager? In terms of this picture of the dispute, intemperance seems justified, manifesting itself in vicious attack on or censorship of the seditious doctrine. Indeed, with a little retaliation to aggravate the matter, detention, execution, or assassination of the subversives comes to seem a patriotic duty--and we see replayed the pathetic cycle of almost very new 'peoples' government which comes to power as a champoin of liberty to become in a few years the new tyranny. After all, communism, anarchism and conservatism are all identified by their theorists as embodying the goal of the withering away of the state. And governments owing allegiance to each of these ideals have turned out in practice to behave in very similar ways. We must consider the actual practices far more carefully than the self-applied labels.

Power is extremely corrosive. Against its corruptive effect there can only prevail the deepest moral convictions. And these arise in only two ways; from the fires of actual persecution or from the insights of a profound understanding of the lessons of an objective history and morality, an understanding which can only be attained from an educational experience wholly alien to most of the classrooms of the world's schools today. If we feed the children a patriotic--indeed, chauvinistic--history and a religious morality (or, rather, twenty different religious moralities as icing on a crudely materialistic set of values), and if both are taught in terms of slogans, hero-worship and romantic myths, we may expect negligible understanding of either side in the great internal and international disputes and hence little real motivation or capacity for compromise. For to understand the moral positions of most men is to see the extent to which they involve the same values as other men; and to understand one's own moral position is to realize how many tentative judgments of fact it involves, how many simplifications, how many compromises. That kind of understanding often provides the motivation for compromise. And to understand the process of moral argument requires that one have some skill in the evaluation of and hence the development of creative compromise. To understand completely is not to accept completely, but it reduces the likelihood of purely emotional rejection. A morality of abstract platitudes is empty; but a morality of dogmatic positions is full of danger.

Once more, in duscussing the problem of our attitude towards our fellow men we travel the route from general considerations through political ones back to the educational process. The case for morality is at its strongest when shorn of the complexities and rigidities we see from a certain station in a well-settled life; at its strongest when we are considering it as a viewpoint for an as-yet-unmolded individual whose luck and talents are as yet unclear, in short, for a child. But finally we must come back to the problem of the individual in the midst of life.

19. Attitude Control

Do we really have the power to become moral, apart from the reasons to want that power? Does our incapacity for change restrict the argument for morality to recommendations for the kindergarten curriculum?

We have already discussed the main elements in any answer to this question in the Responsibility chapter. It is certainly true there are limits on what we can change about ourselves--for example, by the time we are adults we cannot change our mathematical ability from very bad to very good, no matter now diligently we apply ourselves. But many 'mental abilities' can still be radically changed at almost any time; a good example is the ability to remember the names of people we meet or read about. "I have a terrible memory for names" only means "I lack the capacity to remember names, as of now"--it does not mean "I am incapable of learning (How to remember) names." Obviously, "I can't understand French" is in the same way an expression of short-term incapacity. (But cf. "I can't speak French with a native accent.") Equally obviously, to move nearer morality, some individuals have undergone radical reforms in the morality of their behavior, for example, some 'habitual criminals.' Can we all do this?

Almost all of us do change ourselves or allow ourselves to be changed morally: in either case we are responsible for the change. We gradually overcome the temptations that lead to the petty thefts and frequent lies of our childhood. We find ourselves able to give to an alumni appeal or even a remote charity (as opposed to a needy friend) without such difficulty as before, and indeed may occasionally start going out of our way to find such causes. Arguing with his children, whose side is often defended by his spouse, sometimes makes a parent more susceptible to appeals in terms of the rights of others, a tendency which has its converse in the tendency towards selfishness amongst long-time bachelors. Similar results may accrue from interactions with co-workers and be absent from the self-employed persons. And many people have found in their religion or their later reading an inspiration which has led them a long way forward on the moral path.

The task of changing one's character ('mending one's ways') is undoubtedly a formidable one, because the changes are slow and require sustained effort. On the other hand, even a very little effort pays off in a somewhat longer time, which is a very important difference from the situation involved in staying on a diet or exercise regimen, or giving up cigarettes. There, the minimum effort is considerable (too much for many people) and there are not only no returns for expending a lesser effort, but the failure probably weakens one's confidence in (and hence the likelihood of success in) future efforts. But all such tasks become much easier once they have been thoroughly explained, the difficulties--and the devices for handling them--made clear, and the fact that progress appears slow offset by stress on the importance of the small steps. In the end, of course, it is obvious that we can change our character because, as Aristotle observed some time ago, it is obvious that our standards are affected by the company we keep and it is obvious that usually we choose our companions. And perhaps it is also obvious that we can improve our characters because it is surely obvious that we can ruin them.

It is rather less obvious what company we should keep. There is an unfortunate tendency for the 'fine upstanding lad' (as the minister would say) to be the one that gets the minister's daughter pregnant. This is an expectable consequence of a young person's talent for acting the expected role plus the usual parent's--and university president's--extremely superficial conception of what the moral role amounts to. Nice manners to elderly aunts and a proclivity for Ivy League clothes cost little, pay well and fool the folks. Sticking with a highly unpopular stand on a clear issue of principle, ignoring grades in a worthless course when it is necessary if one is to do a really good research project in a good one, missing all the basketball games because they're boring, refusing to be fondled by strangers who happen to be old friends of one's parents, insisting on information about contraceptives at age sixteen--these are activities virtually guaranteed to upset the family but showing forty times the merit of the usual organization-boy who gets the American Legion prize at graduation.

Nor is it ever too late to change, to take up new friends and new interests that lead to new friends. To put it very simply, if one has not lost the use of one's reason one must concede there is room for self-improvement; if one has not lost one's intelligence, one can see ways in which it can be, slowly, done; and no one is incapable of the small efforts that will bring it about. Many of us are too lazy or self-satisfied to do anything--but these are not excuses, merely culpable deficiencies which themselves can be improved. For someone in this category, the best recourse is the roundabout route: if you don't have the strength to do what you concede you should do, you do have the strength to make a deal with someone who'll help you to do it in return for similar favors.

This deal is sometimes called marriage, other times part of friendship, the patient-therapist or the citizen-government relationship. In the mildest and most obligatory form the interest in morality and the attempt to improve one's responses to it manifests itself in the willingness to discuss moral decisions in good faith. For this exhibits respect for the point of view of others and a willingness to allow one's commitment to rationality to bear on one's moral behavior. The first is itself a mild form of morality and the second a mild way of improving one's moral performance by indirect aid.

But are the gains from a somewhat more moral life worth all this planning and effort if one is happy with the life one already has? Complacency with an immoral life is a sign of either ignorance or irrationality--or laziness, to the extent that that is distinguishable from irrationality. A salaried man who makes no provision for his retirement years may well be happy with his life, but that's simply a sign he's stupid. The long run gains of morality do not fit so readily into double-entry bookkeeping practice as does retirement income, but there is surely a close analogy between the economically destitute old man and the emotionally destitute old man who has lost the physical capacities for enjoyment of his own life and lacks the mental capacity to enjoy the lives of others or aid them in the ways still open to him. The ancient crone's cruel gossip provides her with pleasure from the misfortunes of others, though not a moral pleasure. But she cannot share it with the objects of her amusement, cannot aid them even with solace or advice, cannot participate in what entertains her except insofar as she espouses other, moral, values. And only the moral values and the eschewal of the others provide her with membership in the moral group with its many advantages. But the moral attitude is not merely old age insurance, nor is it merely insurance; it offers many advantages--and at no point does its case rest on the claim that one cannot be happy though selfish. It is true that people very often turn to religion through unhappiness, but no priest would argue that religion has nothing to offer the well and happy. The same is true of the defensible element in religion, namely, a rational morality.

Closely related to the general question of whether we can become moral is the problem of distinguishing wants from needs, or, more generally, justifiable desires from unjustifiable ones. In discussing many moral problems it is easy to see what most people want, and what action would best bring this about. But this is hardly the end of the matter; not only may people, even communally, want incompatibles, such as less taxes and more social security benefits, the pleasure of smoking and longer life, but they may also want what is immoral, such as the sacrifice of more maidens, gladiators, pagans, infidels, atheists, Jews, Christians, Capitalists, Communists or other kinds of animal. Another type of case arises where an extremely spoilt child will obviously be made much unhappier by not getting a disputed candy bar than the child from whom he is attempting to wrest it. In such cases we must always ask the long-term question: Is the present desire itself desirable? This is simply a special case of the problem about the selfish vs. the unselfish attitude; some attitudes are more desirable than others, either in selfish, or, later, in moral terms. Different solutions are appropriate depending on whether the desire is or is not alterable now or at some future time, and whether it was or was not alterable at some earlier time. For example, gratifying the strong desire of the spoilt child in the above example is usually undesirable since it encourages an undesirable pattern of behavior and attitude, that of selfish indulgence, a pattern which can be changed by withholding gratification. But if that desire was the desperate expression of an unusual and irremediable physiological need for sugar, we would take account of its intensity as against the otherwise better claim of the other disputant. Pilate must protest the mob's lust for crucifixion, cannot merely accept it as an ultimate fact, just as state governors today should disregard polls showing public support for the execution of murderers. The voice of the people is not the voice of morality, and killing a man to satisfy blood-lust or mistaken beliefs about the effects is just what governorships are made to be abandoned for. As Harry Truman once said: "The buck stops here."

It may be helpful to consider two problems of applied morality that involve these points.

1. How should the sadist be regarded and treated? Suppose that sadism is inherited, incurable and irresistable, none of which is generally true. Is the sadist culpable for beating an unwilling victim for pleasure? Yes, because (a) the habit is recognizable and recurrent and the sadist can place himself under restraint, (b) this kind of sadism is a practice which does not regard the rights of others as equal, hence is immoral. Is there any point to punishing him, since there is no possibility of changing him? Of course; his incurability is with regard to a disposition; it does not preclude responsibility for its unbridled manifestation. He could have avoided the crime and didn't, so he is responsible for doing what he knew to be--or should have known to be--immoral. He is, in short, not significantly different from the alcoholic who injures someone in a car crash when drunk. Our sympathies are sometimes more aroused by the more pathological nature of the case--but usually inappropriately. In fact,

sadism is by no means as severe as here supposed and hence the sadist is typically also immediately responsible. And even in a mixedly moral society, he is strikingly imprudent if he does not exploit the many ways of reducing the risk of manifestation.

2. Would we be justified in forcibly using brain-surgery to convert recalcitrant criminals or psychopaths to morality, (supposing we knew how to do this)? There is for most of us something peculiarly repulisve about altering a man's body, especially his brain, against his will. The commitment to respect the rights of others reaches its maximum strength in cases of violation of another's mental integrity against his will, for a strong reason; to change a man's nature is very like killing him. It means the end of the individual as he was and as he preferred to be. The continuance of the physical body may justify us in saying that murder has not been done, but, we feel, the morally significant entity is the personality, and to destroy that is to eliminate one of the members of the moral community. (Conversely, it is because the fetus has none as yet that the moral case against abortion is complicated).

Of course, there is another side to the question. Self-protection is, and clearly should be, an adequate justification for damaging someone else against their will. Could we not argue that society is simply protecting itself against the criminal in this way?

But self-defense is not a justification for killing someone when there are more merciful and readily available alternatives. For the recalcitrant criminal, there is always jail, which can be a most effective defense for society. While in jail it is of course perfectly appropriate, by open reasoning, to try to persuade the prisoner to reform. We may also undertake to remove any obstacles to reform, such as lack of a trade, or psychological blockages. There is no moral reason not to make the therapy, whether it's talk-therpay, work-therapy or surgical therapy, as attractive as possible in terms of remission of sentence and financial help for a fresh start. It is unlikely there would be many hold-outs against this kind of argument. But if there are, they maintain a basic right to continued existence or integrity which are amongst the most fundamental in our set of values. For _that_ man there is no difference between a painless death and a radical change of personality with associated amnesia. But again, the long-run arguments have an easier time, and genetic engineering to prevent the birth of sociopathic or even socioapathetic individuals encounters no such difficulty, though there are others. In the short run, too, the practical questions are crucial and if the security of prisons became negligible because of changes in the restrictive skills of wardens or the escapist skills of prisoners, it might become necessary to swallow our present feelings in order to prevent more serious consequences. This is one of the moral issues where the right answer is highly dependent on our feelings and where these are clearly rather easily modifiable. Related examples concern the reactions to voyeurism and culturally unusual sex practices.

20. _Paradoxes of Commitment_

Before giving a brief summary of the conclusions of this chapter, we shall turn to some apparent paradoxes about the key element in the present approach, the concept of a rational attitude. From them we can get a clearer idea of the role of this key element, and a way to handle some important problems of applied morality.

As a first example, it should now be possible to see how it can be rational to adopt an irrational attitude. If one is undertaking to act as a spy in a foreign dictatorship, and if hypnotic techniques make it feasible, one might be well advised to have oneself indoctrinated with an attitude of respect or even reverence towards the dictator. During the interim period when one's task is to work up to a position of authority within the country's armed services, this commitment might be the only possible way of passing the loyalty tests required. If one knew that the process is quickly reversible and that the reversal will be carried out when your aid is needed, and the likely losses due to your behavior in this state will probably be heavily outweighed by the gains, the commitment to this belief is surely rational, one might say just because the belief itself is irrational. It is possible to give selfish reasons for adopting an unselfish attitude, as we have argued in this chapter. One can certainly describe the first kind of situation less paradoxically; one might say that the attitude adopted is the rational one, and that we must simply avoid the assumption that rational attitudes necessarily incorporate the beliefs best supported by the evidence, i.e., those which it would be most rational to adopt if one's dominant concern was being right. That is, beliefs which it is probably best for a particular man to hold may not be the beliefs which are most likely to be true. Similarly, one might handle the moral attitude paradox by saying that we must distinguish between reasons which are relevant for a rational selfish man and selfish reasons. Then we can say that the basic maneuver in the argument for the moral attitude consists in showing that a rational mortal cannot, ultimately, be purely selfish, that moral considerations are, without qualification, good reasons, etc. Yet the other formulation must be explored before it can be transcended. It is too plausible to be dismissed as a mere confusion, just as the idea that

"This statement is not true" must be either true or false needs to be explored before it can be transcended.

There are several related paradoxes. The paradox of conscience is one. One should surely always do whatever seems, on careful reflection, to be the right thing to do; but since we are all fallible, what seems to be right will sometimes turn out to be wrong; so sometimes we should do what's wrong. It should first be noted that our obligation to do what we believe to be right is entirely dependent upon the assumption that our beliefs are reasonably good indications of the truth of the matter. That is, we assume prior success in developing a good analytical moral sense or conscience. For it we know our conscience is very unlikely to be right, we certainly have no obligation to heed it. Conversely, insofar as we have good grounds for thinking it reliable, and no grounds for thinking that any other arbiter to which we can have access is more reliable, then we have good grounds for doing what our conscience dictates. Hence we have good grounds for doing what will sometimes turn out to be wrong, i.e., not to be the ideal action had we been able to foresee everything that actually happened, calculate correctly, etc. But, of course, this does not show we had good grounds for doing what we knew to be wrong. Our commitment to the promptings of our conscience needs both effort and justification; it is neither easy nor unconditional.

This paradox is exactly paralleled by one about belief. We should, it seems reasonable to suggest, believe what we think is best supported by the evidence. But long experience makes it clear this will sometimes mean believing something false. It appears to follow that we should believe some false propositions. But all that really follows is that what we should believe isn't guaranteed to be true, and the moment its error appears our obligation to believe it disappears. We never had any obligation to believe something (known to be) false, only something which was amongst other unknown properties false. Our obligations are to actions, beliefs, and so on, as they appear to us after careful scrutiny, using tested instruments; obligations cannot be determined by unknown properties.

With these cases in mind we can rather easily handle the so-called 'paradox of democracy.' Suppose that a long and bitter campaign is fought between a manufacturing group and consumers' representatives over passage of a minimum standards regulation which applies to chewing gum, and the manufacturing group wins the referendum because of a very successful and very extensive publicity campaign, although the data clearly indicate to the professional statistician that these substandard sweets are responsible for a serious rise in pre-teen stomach ulcers. In such a case, the majority have spoken, so in a democracy the law should not be introduced. But objectively speaking, the reverse is the case. Hence democracy is involved in the paradox of laws which should and should not be passed.

'Democracy' is in the same role here as a man's conscience or judgment in the earlier cases. It is only because we can give grounds for believing that more good decisions are made by a system of popular vote and representative government than by the alternatives* that we can even argue that what was voted should be done. It is perfectly clear it will not always turn out to be the best choice, but still it ought to be done even though it ought not to have been voted. 'It' is not a (known-to-be) mistaken action, but an action which in fact happened to be wrong. The pinch in this case is perhaps a little sharper than in the preceding ones because even at the time of the decision it is objectively determinable that the decision is not the best one, in terms of the merits of the alternatives. But the result is the same: we stay with a commitment or attitude when (a) having a commitment to some decision process is on balance better than any alternative, e.g., deciding each issue by whatever method has the strongest support at the time and (b) in a particular type of situation we have good grounds for thinking that on balance the decision process to which we are committed is the best feasible.

---

*The matter is actually somewhat complicated by the possibility that fewer even if good decisions are made by a democratic electorate more good effects may occur, e.g., because of the greater pleasure of making their own decisions by comparison with having to follow orders.

It is a similar argument that led us to the solution of the difficulty about justice for a functional theory of morality, for there too we find an apparent contradiction between the decisions made by a procedure supposedly intended to maximize benefits to those it affects, and the direct calculation of those benefits. The same type of reasoning enables us to handle a range of cases from the death of Socrates to the decision whether to evaluate the virtue of acts in terms of intent or in terms of consequences. Socrates had the opportunity to escape the death penalty the law had decreed, but he declined to avail himself of it, expressing the view that his commitment to the laws should not evaporate as soon as they turned against him. The penalty was manifestly unjust, indeed almost unintended, and so one would think the commitment voided. Socrates rightly saw that the inertia of a commitment must carry us far past the point where we make the commitment revocable on each occasion, since else it cannot yield its great benefits. Whether we should be carried to accept quite such an extremity of injustice is not so clear. Whether Socrates' age or particular 'crime' makes the case substantially different would require much discussion; but the point of his poisiton is profound.

The great dilemma between judging the virtue of actions in terms of their motives or of their effects further illustrates the two-stage approach to commitments. We can only judge acts as virtuous if the motives are good--but a pure intent is not enough. It is a necessary condition for virtue, not a sufficient. The commitment to virtuous motives only has justification insofar as it tends to promote beneficial acts. In someone of great stupidity, or with absurd conceptions of what is beneficial for others, the results will be had not good; and since this is foreseeable there has to be a supraordinate obligation on all to use only a demonstrably reliable judgment and otherwise to withhold judgment. To the extent that an agent is responsible for his or her failure to achieve these standards, to that extent virtuous motives do not establish virtue. Conversely and more obviously, good results do not make good actions. Interestingly, even actions done because of good results which were foreseen are not necessarily virtuous--for the actor may have been entirely careless or overly optimistic in his calculations so that it was pure luck that the good results eventuated. In each case we are moving the analysis back behind the motives and consequences to considerations which arise when the problem of justifying that motive (attitude, commitment, etc.) is seen in full light.

This kind of investigation is an important, and perhaps the most important, part of the analytical procedures recommended here; it remains only to summarize the conclusions, trying to use examples and perspectives we have not already exhausted.

21. Conclusions

The Ten Commandments do not tell us whether or when lying is better than stealing, and neither they nor the text in which they are embedded provide us with any good reason for believing them rather than the tenets of Islam. That is, they lack adequate specification of scope, order and foundation. The argument here has been that a comprehensive and defensible morality can be founded on considerations of its effects on the members of a moral society and in no other way. Long-run practical considerations indicate the desirability of certain attitudes such as keeping calm or obeying military orders or not acting hastily; similarly, long-run considerations of one's relationships with others indicate the desirability of the moral attitude, which is defined as the acceptance of the equal worth of all: in its passive form this means recognition of equality of rights and in its active form it involves love of others. Apart from the several direct arguments for the moral attitude, there is a vast back door to morality whose portals can hardly be avoided. Since morality as defined here offers important benefits for any member of a group if the rest of the group adopts it, there are good grounds for encouraging both this and the next generation to have moral training. And the benefits are sufficient, whatever one's initial selfishness quotient, to make support for moral training sensible even if the price is that one's own attitudes and behavior be affected by the sanction-system set up. The intermediate case between the direct and indirect arguments for morality is provided by the small group with whom one most frequently does or can choose to interact--the family, the circle of friends, the co-workers, colleagues or business associates--where the tendency of one's own moral commitment to bring about the same in others is quite significant, and where any shifts towards morality bring about more frequent and profound benefits for the group than for strangers. Of course, to deliberately restrict equality of consideration to the small group on the grounds that one thereby maximizes gains is simply immoral and irrational for the reasons given in the discussion of the franchise.

Given the argument which leads to the basic moral attitude, a related argument leads on to certain associated moral attitudes such as the attitudes of reverence for justice and for honesty, each being independent but secondary values. It is demonstrable that treating these values as independent is in the long run better for the members of the moral community than attempting to make all decisions in terms of the sole criterion of maximizing benefit for the members. Moral problems are then problems of determining the best action, etc., from the moral point of view, i.e., the point of view founded on equal consideration of all, and hence involving independent appeal to this set of secondary values. Unconscious or conscious perception of the advantages of appeal to such a system explains the common elements in different moralities; emotional and cognitive deficiencies as well as circumstantial variations explain the differences.

Since the account given is of the best long-run attitude and system, it is not a guarantee of a coincidence between the moral and the rational attitude for everyone whatever their circumstances and background at a particular moment. Indeed, as just noted, even a group may be rational without being moral--in the short run; but not a tribe or a nation or mankind, since these are entities with a long time-dimension. Invincible power, a short life or immortality, full foreknowledge or lack of education in the individual can contribute to widening the gap between rationality and morality, and in the limit case of a supremely powerful rational being, caring about other beings is simply a matter of taste not reason, and thus doing the will of such a being in no way makes it probable that one is doing good.

So we have provided a rational basis for morality; but for many that will be less than enough to spur them to action. For them there will still be the need for inspiration and above all for inspiration by example. And that is the role the great religious and moral leaders have always served. If we can enlist their inspiration while rejecting much of the moral philosophy of their later followers we shall have a system of morality with both passions and principles that recommend it. But setting a good example is not the way to teach ethics, for there must be a way for the observer to tell that the example _is_ good, i.e., an understanding of the foundations of the system. A sinner who has acquired that understanding is not wholly without merit beside the saint who has not.*

---

*A comment in terms of the traditional philosophical positions about ethics may be helpful to some readers. We are here accepting the categorical nature of the moral imperative that Kant stressed and trying to give rational grounds for adopting--though slightly limiting the range of--that categorical imperative. Accepting the spirit of the utilitarians, we try to avoid their problems by extending considerations of utility to the underlying attitudes and values with which they began their conclusions of utility--and in so doing we are able both to resolve the ambiguity in their formula and to incorporate the point of view of the deontologist. We avoid the letter of the naturalistic fallacy by avoiding the mistake of thinking that capsule definitions of central concepts in a vast system are possible, the defense which makes the valuable concepts of theoretical physics immune to the ravages of the operationalist. But, of course, we sin in the spirit of naturalism in that we derive moral principles from the facts of social and personal life, as the best strategy with which to handle the dilemmas and exploit the possibilities of life. Yet we need not say that good is a natural property in the sense to which G. E. Moore rightly took exception. Nor do we have to say that what man wants is fundamentally good; it is often evil, and more often morally neutral; but still it is the moving power of morality, just as the desire to win, while not good or bad strategy in chess is presupposed by all strategy and generates the 'ought' of good play from the 'is' of the pieces' positions. We try to render more plausible and then to connect the Platonic and perhaps Aristotelian endeavors to show that the good life for the individual is the moral life with their own and the later social contract theorists' recognition of its advantages for the group. The attempt to rise from the selfish to the unselfish point of view, in the terminology of this chapter, is the counterpart to the theologian's description of the struggle from original sin to the path of grace.

VALUE CLAIMS IN THE SOCIAL SCIENCES

Michael Scriven
History and Philosophy of Science
Indiana University

VALUE CLAIMS IN THE SOCIAL SCIENCES*

Michael Scriven

0. Introduction.

The aim of this paper is to provide a sound understanding of the nature of value judgments and other claims about values, and to attack a number of common fallacies about the relationship of value judgments to factual and scientific claims. In particular, reasons will be given for the views (i) that value judgments are inescapably involved in all the sciences, (ii) that in the social sciences *moral* value judgments are sometimes involved. There is nothing very novel about these conclusions. They have often been maintained, as have their denials, usually for very bad reasons. The reasons are usually bad because they begin with an oversimplified conception of the nature of a value judgment. It is essential that any discussion of these issues begin with an *extremely* careful analysis and classification of simple value judgments for they are one of the slipperiest species in the whole logical zoo. The reader must therefore bear with some elementary nature study before we can pass judgment on the more exciting stories in the bestiaries. It should perhaps be mentioned in advance that there will be no discussion of supernatural foundations for value claims, in particular moral value claims, for the twofold reason that such foundations are neither required nor available.

---

*Revised for and read at Political Science Department Symposium, Northwestern University, February 1966. I am especially indebted to Kurt Baier for valuable discussion on this topic over the past fifteen years, and to the U. S. Office of Education which supported work on this paper through a grant to the Social Science Education Consortium. Robert McLaughlin, Larry Wright, Paul Dietl, G. H. von Wright, K. Baier, Diane McGrath, and others made useful comments on earlier drafts.

1. Elementary Examples.

Value claims obviously include judgments about the worth, value, merit, goodness, fineness, quality, etc. of things, people, actions, thoughts, attitudes, etc. For example, "Kirmans and Kashans are two of the most valuable contemporary Persian rugs on the U. S. market"; "An accurate long-passing quarterback would probably be the most valuable man a college team can have, as the game is at mid-century". These examples are different in certain respects; the first is essentially a factual remark about price-level in a particular market ('valuable' here roughly means 'expensive'); the second is an appraisal of the merits of a hypothetical individual. But they share a crucial similarity, for each has an implicit reference to a market, i.e. to a group with certain needs or wants. Indeed, it is clear that value is attached to the object appraised because it possesses those properties which the market wants or needs.

The distinction between "wants" and "needs" is important: wants (or demands) are what people believe they would like or benefit from and may not be needs at all, while needs may not be recognized at all, but must actually produce basic benefits. Either or both can produce valuations. In the first example, the value of the rugs would not be as claimed unless the consumers did recognize that these types possess the desired properties. In the second example, however, the player described could be shown to be valuable whether or not there were consumers in the relevant market who believed this. Partly for this reason, we are inclined to say that the second claim is a claim about 'the true value' of the appraised entity (i.e. its demonstrable value whether or not recognized as such)--by contrast with the first claim's reference to 'market value' or 'what it will bring'. True and market value may vary quite rapidly as time and conditions change. Both can be expressed in monetary terms or in exchange terms or in general evaluative language. In some contexts, this distinction is absurd, but the second example shows it is not always absurd. In fact, when we make a more careful or more skillful analysis of the merits of various options than that made by the bulk of consumers (who determine the market prices) we are quite often able to find something whose true value is greater than its market value. We call this a "good value" (meaning "a relatively good return for the money spent") or a "Best Buy". Kirman rugs are at times vastly overpriced in terms of their wearing quality, mothproofing and resale value--a mere fad. At such times, they would be said not to be a good value, for the average consumer. To say they are 'overpriced' is to stress the contrast between market value and real or true value (both here being referred to a monetary scale).

This distinction is an absolutely crucial one and must be made whenever possible. A used Lincoln is always much less expensive than a used Cadillac (of the same year and type, and in the same condition), although more expensive when new, and since this is largely due to the status value of the Cadillac it can be argued with some point that a used Lincoln is a better real-value than the used Cadillac, since we do not usually try to defend aesthetic or status appeal as part of 'the true value' of a functional object. Of course, sometimes we do, by explicitly including such considerations as a consideration of importance to us, and sometimes it is not necessary for us to defend our purchases as having an intrinsic worth that justifies their cost. Sometimes we buy things just because they catch our eye, or we want to take our minds off something unpleasant that we should be doing. But when we are spending someone else's money, and it is in short supply, or so much money out of a small budget that reason requires us to justify spending it on this brand rather than that, in terms of basic needed qualities, then a potentially objective process of comparative evaluation, or 'rating', comes in. Such evaluation is, in general, in terms of defensible wants and needs rather than whims and weaknesses, for the very good reason that the former are usually--indeed, almost definitionally--more important. Market values are always subject to fashions, real values are, supposedly, not.*

So far we have distinguished two kinds of value claim, while insisting that there are many borderline examples. There is a third kind, once again clearly distinguishable in its pure form, but capable of hybridization with the preceding types. Apart from directly assessing the market-value of something, one may also directly assess the values of the population that makes up a market, i.e. of an individual consumer or group of consumers. Thus we may say, in discussing union contract negotiations, that the UAW seems to value job security more highly than the Steelworkers, or that small colleges often place a high value on geographic diversity as well as on purely scholarly indicators in their selection procedures. There is clearly a close connection between this kind of value claim and a market-value claim: both kinds identify something as being of value in a certain market. (They contrast with the real-value claim in avoiding any commitment to the justifiability of the evaluation.) The difference between the two is that one is using this fact as a way to talk about the market and the other is using it as a way to talk about the item being evaluated. Normally, this difference manifests itself in the kind of values mentioned in the two contexts. In talking about the market, we try to give the basic value factors from which all others can be derived--that is, we mention the qualities that are valued. (For this reason we shall often call the third type of claim a 'claim about the value-base' of the market.) In talking about the valued entities, on the other hand, we nominate them individually. In general, getting to the market valuation of an entity from knowledge of the values of the market requires additional factual information, about the individual entities being evaluated and about other characteristics of the market besides their (or his) values. You may know what Jones wants in a car (his value-base), but you need to know a good deal about the properties of particular makes of cars, and about Jones' impulsiveness, etc., before you can come up with an estimate of the 'market value' to Jones of any particular make, i.e. what he would pay for it. So market-value claims typically represent the product of a more complex process than values-of-the-market claims. In a particular case, however, where we were talking about the market value of the qualities themselves, the processes would coincide. 'Judgments of preference' may be either value-base claims or market-value claims, then, depending on the kind of thing being preferred. Roughly speaking, if it's qualities, it's value-base; if it's items or specific states, it's market-value.

---

*Except where the aim of the valuer is to make money by resale of the valued item: in such cases, the real value to him depends on the market value and hence on the tastes of the times.

With respect to another kind of process the relationship of market-value claims and value-base claims is reversed. In the investigative process, it is often much easier to discover market-values of particular objects than the underlying values of the consumers that produce this observable choice behavior. For we may have good clear data about market behavior. Similarly, we may sometimes find it easier to determine the real value of a product than its market value, as when we develop a highly effective new drug.

There is a fourth type of claim which completeness requires us to include. Its position is less secure in a typology of value claims, as far as its internal logic goes, but usage demands a place for it. Consider what happens if you decide to mortgage property--a house, jewelry, a boat.

An expert is called in who is referred to as an assessor, appraiser or evaluator. The most important information he is supposed to give us is the market-value of the property he examines. But he will often do more than this, partly as a way of justifying his appraisal. He will point out areas of dry rot in a house or boat, the use of base metal or cavities in the settings of jewelry, etc. He mentions these facts because they bear directly on the value of the property. Such 'purely descriptive' remarks are often referred to as *part of* the evaluation and not just as part of the *basis for* the evaluation. Similarly, when a quality control engineer takes an automobile at random from a production line to make what is known as an evaluation of it, this is simply a report on its performance and manufacturing tolerances in a large number of detailed categories. Essentially the same process goes on in many school systems when a course is 'evaluated'. The justification for calling this kind of activity evaluation is simply that the standards of merit or value have already been settled and the 'performance' data now being gathered *constitutes* the evaluation because it is all that is now required. We would not normally say that a listing by the engineer of the car's color or installed accessories is part of the evaluation, since these are simply owner options: but the presence of crazing or orange peel in the paint coat, or malfunction in the accessories, just like gross deficiencies in the acceleration, would be included.

In short, the nature of certain claims can be determined only if we consider the context in which they are made. Where the stage has been correctly set, an assertion that is 'intrinsically' (i.e. in many or in the usual contexts) non-evaluative may properly be said to be an evaluation. We shall call such claims "valued-performance" claims. Of course, if we do *not* know that (and usually how) the performance bears on merit it is a travesty to refer to the measurement of it as evaluation: and exactly this travesty is involved in a great deal of curriculum evaluation where no defensible conclusions about merit can be drawn from the kind of data that is so earnestly gathered. Good conceptual analysis (of the relevant concept of merit in terms of the qualities involved in it) and good experimental design are essential presuppositions of any performance-testing in an evaluation process.

It is thus only because we normally value intelligence that one can ever call assessments of intelligence value judgments; the inclination to do so often reflects the careless tendency to add any debatable issue to the category of value judgments. Value judgments are no more and no less debatable than factual judgments and indeed not distinguishable from judgments of fact. (In case it may be thought that at least real-value claims can be distinguished from factual claims we shall shortly examine the possible criteria for such a distinction.) Similarly, it is clear from the above examples that value claims in general are not mere expressions of opinion or taste although they are often about or dependent upon matters of opinion or taste.

Our basic typology, then, consists of four classes of value claim: real-value (Type A), market-value (Type B), value-base (Type C), and valued-performance (Type D). And the criteria for distinguishing them involve consideration of the context in and intent with which they are used. To stress the importance of this it is probably sufficient to reflect that the remark about the rugs might be intended, in certain contexts, to express a claim about the true (aesthetic and/or practical) worth of these rugs. Conversely, the remark about the football player might be intended, in certain contexts, to tell us what kind of player is getting the largest illegal bonuses. It is certainly true that this context-dependence of value judgments is the key to understanding the term "good" and its correlatives. And it is absolutely fundamental for identifying D-type claims. Intelligence is usually taken as a positive value to the individual. But if we are assessing men as possible husbands for a beautiful but quite exceptionally stupid girl, it will be a drawback, a negative value. In either of these contexts it is still value-loaded but only because of the context. For in yet another context, where we are simply inventorying the characteristics of draftees, we may regard high intelligence as simply a distinguishing fact about some of the men, like their unusual height or weight, which will suit them for some jobs, and handicap them for others where unquestioning obedience to perverse-seeming orders or the discharge of extensive repetitive tasks is involved. The assessment of intelligence is not intrinsically an assessment of value. This point is obscured by the linguistic fact that the term "evaluation" is frequently used as if it were equivalent to "assessment" or "determination" or even in some situations "measurement". Now the full process of evaluation involves comparing and combining performance data with independently identifiable desiderata. This combination or comparison of two scales--the actual and the desired or needed--is what distinguishes evaluation from simple measurement or determination. But we have seen how, in certain contexts, measurement or observation may be called (because it then amounts to) evaluation. And measurement, observation, etc. are typically involved in the more complex process because determining the actual characteristics of the performance is typically necessary before we can combine it with the values-base.

2. Common Fallacies and their Respectable Relatives.

We are now in a position to assess and reject or refine some of the usual arguments about value judgments and the social sciences.

1. The relationship between our term 'value-claims' and the term 'value judgment', which has been used in a great many different ways, should be clarified. 'Value judgment' is often used pejoratively, particularly by those whose views we are considering, to mean 'mere matter of opinion or taste'. This usage does not coincide with any one of the types of value claim we have distinguished. The nearest approach is to our 'real-value' judgments. But to suggest that such claims are not scientifically decidable has the immediate consequence of denying the legitimacy of a very valuable kind of report from the National Bureau of Standards, the Food and Drug Administration, Consumers' Union, and other testing organizations. When one of these reports that a certain battery additive, depilatory, reducing pill, or knife-sharpener is absolutely worthless they are surely producing a scientifically substantiable claim. And exactly the same situation applies to reports by a commission of economists on the efficacy of a recent tax change in achieving its objectives, or to any of the hundreds of similar situations in the social sciences. In brief, judgments of the true merit of something are readily supported when the intent of the entity is clear and undebatable and when its performance with respect to those goals is also clearly very deficient or very effective. In one way or another we shall be going over this point again, but its importance can hardly be over-stressed. No type of value judgment is by its nature unverifiable. Real-value claims, like the others, are sometimes hard to verify, sometimes easy, just like factual and theoretical claims throughout all sciences.

The final defensive position of the value-free enthusiast is the claim that moral value judgments must be kept out of the social sciences. To identify value judgments with moral value judgments would be a grotesque blunder and hence the characterization of this position as the claim that the social sciences should be value-free or free of value judgments is indefensible. For other reasons, the position itself is indefensible: it will be discussed below.

2. Almost any property can become valuable (or harmful) in some context and hence almost any factual assertion may figure in, or be the deciding factor in establishing a value-claim. As we have seen already, this means that a very wide range of scientific claims can, in such contexts, be called evaluations, in one sense. (In such contexts, we have suggested calling them valued-performance claims.) This provides no grounds for concluding that science is permeated with value-claims of the allegedly objectionable 'real-value' type. It simply reflects the fact that evaluation involves a purely factual component, and that a very widespread use of facts is for the purpose of evaluation, in science as well as outside it.

3. It is often thought that one can establish the value-impregnated nature of science by pointing out that some kind of value judgment is made by the scientist when he decides to work in a particular scientific field. But making that value judgment may be just part of the personal activity of a scientist and not part of science. It may be simply based upon consideration of his own talents, interests, or opportunities and it may be rational or irrational, but it is still typically a personal decision about how to spend his time and resources.

On the other hand, his deliberations might involve general considerations about the kind of research that would be best or most valuable for the subject at that particular stage of its development, and that kind of evaluation is not a personal matter. Although such judgments are quite different from the kind of judgment that is usually thought to be the main concern of a practicing scientist, it is an inescapable necessity for a scientist to make such judgments about his field. He must be able to assess the merit of work by others, peers and students, and one cannot meaningfully assess merit without any consideration of significance for the subject. Even if one could, a value judgment would still be involved. So the fact that a scientist must make choices of problems to work on does not show that science involves value judgments; but the kind of considerations he should (perhaps morally as well as scientifically) take into account in such deliberations do involve value judgments.

4. A third argument aimed to attack the value-free conception of science, but fallacious in its usual simple form, originates from consideration of the applications of science. A pharmaceutical manufacturer, for example, must decide on methods of quality control, not only by reference to the statistical chances of defective products in an output population for which samples of a certain size are taken, but also by taking account of the kind of consequences that would result from marketing a defective product. These consequences range from the destruction of a valued life, where the defect is the toxicity of a standard medication, or the creation of an unvalued life, where the defect is in a contraceptive product, to less serious examples. Obviously, more extensive sampling, or higher acceptance standards in the samples taken, will be called for in cases where the consequences of error are serious, and obviously the question of seriousness is a question of the value of human life (or health, etc.). But it is not obvious that the decision to be made can legitimately be said to be part of science itself, even applied science. It is more plausible to regard it as a human decision about how to use the results of applied science. Similarly, the decision whether to use the atomic bomb can hardly be said to be part of applied physics though it is certainly a decision about how or whether to

apply (applied) physics. Once the point has been made, it seems entirely proper to distinguish problems of applied science from problems about the application of science, and this distinction armors science against the intrusion of value judgments of the kind just described. Once again, however, we find that there is a special family of cases where the argument does work--examples from applied science where the value judgment seems to be inseparable from the subject itself. But these deserve a section to themselves, for they also concern the problem of the involvement of moral value judgments in the social sciences.

5. We now turn to a family of claims that are often thought to be just rephrasings of one view. It is commonly said that one should 'distinguish facts from values', or 'empirical claims from value judgments', and that the (social) sciences are legitimately concerned only with facts and not values (or with means and not ends). It is said that their task is 'to describe and not to recommend', to tell us 'how the world is, not how it ought to be'. The conflation of these claims is very confusing since some are hopelessly mistaken, others quite plausible or partly true. Some of them we have already discussed, directly or indirectly, but we must now discuss an argument which is probably the most powerful force behind these 'value-free' positions, an argument whose effect has been enormous, especially in the form due to Hume. There is a crucial logical distinction, so it is argued, between the vocabulary of description (the vocabulary of "is") and the vocabulary of recommendation (the language of "ought"), and there is no way to proceed by valid inference from one of these languages to the other. Only a personal commitment to bringing about certain ends can give a factual statement about means any impact on our actions, and that personal commitment obviously does not show that the ends we have chosen are right. In general,

therefore, value judgments cannot be wholly grounded in factual judgments--they must also involve personal commitments, which it is surely no business of science to endorse or criticize.

The first objection to the fact/value dichotomy must be made on straight terminological grounds. The usual interpretation of this alternation between facts and values takes it to imply the existence of an intrinsic distinction. But the distinction is merely contextual. There are many contexts where factual value judgments can be made--the examples of value judgments discussed above are surely properly called statements of fact. Of course, they are by no means always *simple* statements of fact, or statements of *observable* fact. To say that something is a statement of fact is usually only to say that it is definitely true, and for this reason we certainly cannot concede the existence of a general distinction between factual statements and value statements. It is a statement of fact that the universe is expanding, or that electrons increase their mass when they travel near the velocity of light; yet neither is a report of a simple observation but the conclusion of a very complex chain of inference. We can work out the values of others from their behavior, and the values of objects (with respect to a certain market) from their properties and the demands of the market, as every consumers' union does, and the results can often be stated as facts. It can often be established as a fact that Brand X is a better value than Brand Y, that Brand Z is a very good value, and so on. We have already indicated how analogous value judgments occur in every social science. It is not possible to defend the position that claims like this are in any way dubious.

What *can* be said for the facts/value distinction? If made *in a particular context*, one can distinguish the fact-*gathering* stage from the fact-*combining* process that eventuates in a *real*-value judgment. Claims about the value-base and claims about valued-performances are combined to produce the comparative or absolute rating. If one could restrict the term "value judgment" to real-value judgments and if one could ignore the implicit suggestion that the valuation is not properly called a matter of fact, and if a fixed context is presupposed, then the distinction between facts and evaluations is possible. But these 'ifs' are crippling, and unnecessary: a better alternative is simply to distinguish between the evidence and the evaluation based on it--a special case of the general distinction between evidence and conclusion. If we wish to use the catch-phrase facts/value distinction, it must be used to carry no implication of a difference in objectivity or certainty.

The argument now moves into its final and what seems to be its only challenging form. The sophisticated social scientist will point out that from the premises:

1. Group G values the properties XYZ, in products of type p (e.g., forms of government), and gives them relative ratings as follows...
2. Product P, of type p (e.g., democracy), exhibits a better performance with regard to XYZ, rated as Group G rates them, than any of the other products between which Group G is going to choose. I.e., it is the most valuable one for them.

one cannot legitimately obtain the apparently plausible conclusion

3. Group G should (rationally) choose Product P.

For this conclusion unconditionally endorses the selection of P, by G, and hence involves the assumption that it is perfectly all right for Group G to have just the values it has. But the premises do not guarantee this, and to do so they would have to include a real-value claim about Group G's values, namely that they are the right ones to have.* So, it is usually concluded, facts alone cannot lead to value-conclusions.

It should by now be clear that the formulation of the last sentence is still grossly misleading. It is obviously false about some types of value-claim. For example, the facts about the union contracts and the situation in the industries lead to the conclusion about the unions' values. The domains of market value, value-base and valued-performance claims are immune to the present dispute. What is meant is better put as 'facts alone cannot endorse or justify a particular course of action', that is, cannot support a real-value recommendation. But is this really true? Recall the quarterback example; an analysis of the college game as it stands and as it could be, might surely reveal that an overwhelming role would be played by an accurate long-passer. And surely this would justify selecting such a candidate if one appeared.

No, says the purist: it only justifies such an action if one can justify trying to win at football. The point of his objection becomes much clearer, he says, if we consider the more practical question whether the quarterback should be awarded a scholarship and not merely 'selected' in the abstract. We cannot conclude from the admittedly factual high valuation of his skill relative to other players we could select, and our admittedly factual interest in the values on which that valuation is based, and the admitted fact that we can't get him any other way, that we should award him a scholarship. To do so, we would have to justify the whole malodorous business of athletic scholarships, which is obviously no mean undertaking.

---

*Technically, it also requires the real-value claim that one should (rationally) choose the alternative which is most valuable for one. But this is a definitional truth, i.e. it involves no extra and possibly questionable assumptions.

At this stage we have arrived at a clear formulation of the valid point in the anti-values position. Before discussing it further, we should see what it does not prove. In particular, we should note that the latest formulation of the argument, the one just given, involves a further and most important concession. For it allows that a well-based comparative real-value claim about a product, for a certain market, may be factual: the accurate long-passing quarterback is a better choice (a more valuable player) for the present college team than any other kind of player one might reasonably hope to find. Dishwasher X is (really) a better value than Dishwasher Y (because of superior performance on all relevant dimensions and lower price, let us say). The main reason why comparative evaluations are often immune to the source of worry that pervades the absolute evaluation is the reason that makes an ordinal scale of measurement (like the hardness and loudness scales) easier to construct than a cardinal scale (like those for length and mass): the avoidance of any need to say how far each measured (or evaluated) entity is from a fixed zero-point. It is often easy to identify relevant performance dimensions (and the directions along them which indicate superiority) and to see that X does better than Y on these--as long as one doesn't have to say that X does very well (is very good, etc.). Doing better than Y may not be doing very well at all--a further analysis is required to establish the absolute claim. We shall show, however, that this further analysis can often be given. And there is a very close connection between absolute real-value claims and recommendations; the latter are absolute real-value claims about one of the alternatives between which one must choose. Of course, choosing presupposes motivation, i.e. goals or ends, i.e. values in the most general sense. So perhaps it can still be maintained that the social sciences are only concerned with means rather than ends? The answer is negative, although there is a misdescribed grain of truth in this.

Obviously, as far as reporting values is concerned, the social sciences are at least as concerned with people's ultimate ends or values (if they have any) as with their means to these, i.e. their intermediate or instrumental values since these motivate human behavior most powerfully. But even with respect to direct, endorsed, evaluation, the social sciences may be able to demonstrate the absurdity of one--or the inconsistency of several important values (e.g., the 'pure Aryan race'). So direct evaluations can certainly be falsified by scientific and logical investigations. The grain of truth in the 'means but not ends' program for social sciences is this: the kind of concern that the social sciences properly have with values does not always include the whole business of evaluating them. This task is conventionally and superficially regarded as a task for philosophy or perhaps religion. In fact it is a task which (a) sometimes can be done within a science, by pointing out fatal factual errors; (b) sometimes can be done outside the sciences, as when a purely logical proof of inconsistency is given; (c) nearly always is a hybrid task requiring both scientific knowledge and logico-philosophical skill. In general, the evaluation of ends cannot be done without the social sciences, for life ideals, or recommendations, based upon errors about human capability are certainly futile. Finally, and this is perhaps the most important misdescribed point lying behind the means/ends position, (d) the evaluation of ends sometimes lies outside the social sciences because sometimes they lie beyond rational evaluation, as when they are simply matters of taste. But this is not true in general, for it is very rarely that the consequences of tastes, let alone attitudes and their associated beliefs, have no consequences for other tastes, and the discovery of these consequences is a major task of the social sciences.

6. Quite apart from the considerations just listed under 5, the general claim that the social sciences can 'only describe and not recommend' is a mistake for simple grammatical reasons. Problems often arise about means when the ends are not in dispute, where the social sciences can perfectly well make recommendations. Recommendations are nonetheless recommendations because they presuppose goals. The recommendations made by a doctor treating you for cancer presuppose your interest in life or at least in the reduction of pain, but it would hardly do to say that because these values are not determined by medicine, doctors should not, or do not, prescribe. Similarly, the social sciences can and do recommend, even when they do not verify all the values which lead to the need for the recommendation. But should they? Yes, as long as there are no grounds for rejecting the presupposed values.

At this stage it may occur to the reader that recommendations should be given a completely separate category in our classification of value judgments. But there is no essential difference, for our purposes, between an 'absolute' (i.e., non-comparative) evaluation of real merit and a recommendation: a recommendation is simply a real-valuation of one of several alternative possible actions. To say "You should do X" or "You ought to do X" is not importantly different from saying "X is the best thing for you to do", or (sometimes) "X would be the most worthwhile choice or course of action for you".

No, the basic problem is the same for any real-value claim. Before one can support real-value claims one must have or assume some values (in the extended sense which includes any desires or needs). Moreover, one's evaluations can scarcely be proven right if the values on which they are based are wrong, whether one is evaluating knife-sharpeners, wives or lives, true from the trivia of housekeeping to the further reaches of morality. It is surely the embarrassing prospect of having to establish the validity of ultimate moral standards that has led many people to general scepticism about the possibility of substantiating any value judgments. But it is often easy to establish the validity of the ultimate values in the non-moral cases, since they are then only the wants or needs relevant to the choice of a knife-sharpener. The moral case is quite separable; and, independently, quite solvable.

7. Should the social sciences be concerned only with telling us 'how the world is' and not 'how it should be'? One answer is implicit in the answers to the preceding questions. It is very often (though not always) the case that 'how it should be' _with respect to one particular issue_ can not only _be_ discovered by the social scientist but can _only_ be thus discovered. For with respect to a particular issue it is (i) often perfectly clear (or can be objectively determined by the techniques of value-base investigation) what goals are desired by the interested parties; (ii) clear that there are no grounds for rejecting these goals; and (iii) clear from empirical research and logical analysis that these goals can best be attained by a certain course of action. The analogy with the doctor is again appropriate: to argue that prescription, indeed objectively supportable prescription, is impossible in the applied social sciences, is as inappropriate as it would be with respect to the applied medical sciences. There may be differences of degree, but there are none of principle. There is nothing more personal about a physician's prescription than about a clinical psychologist's; nothing more general about an economist's than about an epidemiologist's.

The careful reader of the last few sentences will have noticed a possible loophole for the value-free sympathizer. We said that a prescription can be entirely justified when the best means to certain goals can be identified, when it is clear that these are the goals of the participants, and when 'there are no grounds for rejecting these goals'. But surely this is not enough--surely one must also be able to _justify_ these goals. Otherwise the only conclusion one can reach is that certain action _may_ be proper or right. This very rational argument is based on a failure to recognize the _essentially derivative_ nature of valuation. We shall explain in the next section how this feature of recommendatory value judgments enables one to proceed from the absence of prohibition to the presence of justification. But first we must mention one more argument which is used to support the value-free position and which involves a conception of value judgments to which any alternative account must pay very close attention.

8. A certain mental picture of the _relation between_ value judgments (as opposed to their intrinsic nature) dominates much methodological discussion of values and distorts the reality. It is widely supposed that a man's system of values can be thought of as a pyramidical hierarchy, or, conversely, as a tree-structure. These have, at one end, a large number of specific practical values (liking today's issue of _The Times_, preferring one's nephew James to the neighbors' Johnny, etc.) which are explicable (or justifiable or derivable) from a smaller number of more general values (liking the most compendious paper in the country and not caring that it also has the most typographical errors, liking little boys who are intelligent but rather quiet, etc.), which are themselves instances of still fewer and more general values (liking the qualities of being well-informed, intelligent, secure), etc. Now if this were a realistic account, all one's values would derive from a relatively small number of 'highest' (or 'most basic') values, which by definition are not derived from any other values. Where do _they_ come from? It seems very plausible--if one is thinking in

terms of this model--to suppose that they must be simply a free choice by the individual. The model cuts them off from any visible means of support, and in doing so it misrepresents the extensive interaction between values and experience that actually exists. In the next section we shall discuss a more appropriate model.

3. A Constructive Account of the Fact/Value Relationship.

Values consist in or arise from needs and wants. The primary type of value is something that is directly needed or wanted.* Secondary values arise because we have to set up certain intermediate goals if we are to achieve the primary goals, so the most important secondary or instrumental value is rationality, a method which maximizes the efficiency of our attempts to achieve our primary goals. Optimization requires that we also be prepared to adjust our primary goals, where this is psychologically possible, in the light of the constraints of external and internal reality limitations. External limitations arise from unavailability of goods, the opposition of others, etc., internal ones from conflict between different goals, or difficulties due to character defects. The whole vocabulary of value is generated by the attempt to communicate about, and to structure and refine communications about, this interaction of means and ends, and means that become ends, and the facts about them. The language and logic of value can be applied to any situations exhibiting the characteristics we have just described--thus, we may talk of good and bad, better and best, ought and should and is, in a context of grading examination papers, bassoons, chess openings, The Alexandria Quartet, and the nobility of actions. The relevant criteria in each case are different--what makes a bassoon good is not what makes an act noble--but it is inappropriate to describe this variation as a sign that the word "good" is ambiguous or being used in a different sense or with a different meaning. "Good", like the other terms of the evaluation vocabulary, is a function word and not a labelling word like "red". We do not say that the word "conclusion" (of an argument) is ambiguous because quite different kinds of statements can be conclusions, or because what would count as a sound conclusion in the context of legal evidence would not so count in the context of mathematical logic. The point about the term "conclusion" is that it stands for any consequence that may legitimately be inferred, by whatever standards of inference are justifiable in the particular context of the discussion. It no more has to stand for deductive implications alone than the word "dog" has to stand for poodles alone. And similarly "good" has no primary commitment to the moral use; it always serves the same function, that of indicating entities which score well on the relevant evaluation criteria, whatever they may be. The process of evaluation, being simply the combination of goal-criteria with objectively determined performance measures, in general involves only empirical and analytical procedures, though certainly it involves more than simple observation.

---

*Only in the extended psychologist's sense would we be inclined to call all needs values; hence the suggested compromise of calling them a type of value.

In the special case of moral evaluation, special criteria are involved. The only defensible set of such criteria are complex compounds of the welfare variables of the population on which the morality is based. The ultimate foundation of morality is the most basic needs and wants of men. Although the utilitarian formula for compounding the individual welfare-functions is both crucially ambiguous and mistaken in being too limited in its range of application,[*] the spirit of its approach is the right one, in its concern with utility, though it is deficient in its safeguards for justice. But these conclusions about morality, which are controversial amongst moral philosophers, are not crucial for what has been said about value judgments in general, and indeed, if we make certain plausible assumptions, are not even essential in order to justify the use of the same approach in the field of morality. For the above analysis leads to basic principles that are very similar to those in several more traditional ones, and the practical applications of all should thus be closely similar, if applied equally rationally. If one is prepared to accept, on whatever metaethical basis, the proposition that morality definitionally or even fundamentally involves the notion of equality of rights, then one need accept no other independent principle or criterion, for the other standard moral principles and values (justice, honesty, etc.) can be derived therefrom with the assistance of some rather simple facts about human nature. And moral evaluation simply becomes evaluation of acts, etc. directed by the ultimate criterion of equality of consideration, or by the proximate criteria of justice, honesty, etc. when these are more readily applicable and not in dispute. The morality of particular practices, such as monogamy or polygamy, then emerges as defensible in certain environments and not in others, whereas the more general principles of morality derive from more nearly universal features of the human situation. Accepting the equality criterion as defining or generating morality--or any other criterion--does not entail accepting the legitimacy of moral claims upon one's attention. But it does make it possible to see moral value judgments as just one group in the range of evaluating processes, which may or may not be of any personal interest, from that of driving skills to that of male ballet-dancers, each based on comprehensible and applicable criteria--though these criteria can only be applied by exercising hard-earned skills. The question of justifying the principle of equal rights, or attention to it, is a different question, and one that will not be taken up in detail here beyond remarking that attention to comparative anthropology, or to those problems of game-theory which can only be solved by cooperative strategies, provides us with strong grounds for supposing that enforcement and even acceptance of morality can serve a valuable function in improving welfare. It should be clear from these analogies that the question of justification is itself largely a question for the social sciences, whether or not it has previously been accepted as part of their province.

---

[*] See "Morality" chapter in Primary Philosophy, McGraw-Hill, 1966.

An important consequence of the preceding account of value judgments is their previously mentioned derivative character: they only arise from the interaction of pre-existing wants or needs with external and internal restraints. There is nothing intrinsically good or bad about the original wants or needs, although the constraints and the interactions may lead one to a subsequent overall evaluation in terms of which some of the original goals must be regarded as less important, not feasible, or disadvantageous and hence devalued. No outside source of values is necessary for this to occur; we rightly regard heavy smoking as a bad habit to acquire because we know that life is more important to most people than the pleasures of inhaling smoke. It follows that whenever there are considerations of welfare to be served by an action, there are automatically good reasons for doing it without any need for a proof that it is good to serve welfare in this way. It isn't intrinsically good or bad to serve welfare (one's own or that of others), it's simply something one has a good reason to do. One may subsequently discover overriding reasons to do otherwise, but at this stage there exists a good reason in favor of this particular action.

Consequently, the tendency of the value-allergic social scientist to withhold a value judgment which is clearly indicated by the evidence in his possession, because of his frequently voiced worry, "Who can be sure what is right or wrong?", is an overblown scepticism. Welfare-promoting is self-justifying until shown wrong, i.e. shown to be inconsistent with other values derived from welfare-promoting. Wholesale scepticism about value judgments is as absurd as wholesale scepticism about observation claims. One does not have to believe that any particular ones are indubitable in order to be confident that many are true.

Even if we assume that value judgments are logically more complex than observations (which is certainly false of some primary, first-person value claims), total scepticism about value judgments is just as absurd as the suggestion that one can only be sure of observations and hence should never make assertions about the explanation of eclipses or atomic explosions. Explanations may be, typically, a little more fallible than observations, but they are still often strong enough to stake one's life on, and the same is true of value judgments. It is important to see that the variables bearing on a value judgment are quite often, in a practical situation, undeterminable for the time being, just as the facts needed to settle on the right explanation may be unavailable, and not to conclude that this is always or necessarily true. Where the variables are indeterminate, an interim evaluation of various actions in the light of the uncertainty of this evaluation is not in the least diminished by the uncertainty about the hoped-for evaluation. Before turning to an example to illustrate this point, we shall conclude the general discussion of the value-system with an alternative to the pyramidical or tree-structure account of the relation between values.

The best model for a value-system is a web or net of webs stretched across the ground of experience, serving as one of the structures that unifies it. The intersections or terminations of strands represent values, the strands represent empirical or logical connections. The more important values serve as the focus for many strands of the web, and are not necessarily anchored to the ground. The peripheral strands--and some internal ones--terminate in points of attachment to the ground which represent the most specific applications of the value system. The net is extended by the enlargement of experience, which brings with it the need for new choices and new orderings of the alternatives, i.e. new tie-points at the periphery. The selection of these is governed by the general principle of organization of the net, which is roughly the principle of maximising strength by minimising strain. A particular series of choices at the periphery can set up a considerable asymmetrical strain on the net which will either leave it in a weakened condition or lead to substantial readjustment of the internal organization. Similarly, reflection on the internal structure may uncover purely internal strains that can be relieved by altering the relationship, i.e. the interconnections of the internal nodes. This model is deployed in a very different way from the tree/pyramid. There is no single apex/trunk: but there is recognition of the fact that some values are considerably more general than others. The impact of experience is felt throughout the system and not just at one end. The constant process of adjustment is represented more realistically, with experience operating on values at all levels; after all, experience sometimes obliges us to make choices between alternatives couched in very general terms. The connections between values of different levels of generality in the net model, as in reality, are not always through the same intermediary values. The more crucial values can be seen as deriving their status from the attempt to reduce the tensions imposed by particular choices rather than being the primary source from which the particular choices flow; but the element of truth in this view is preserved in the description of the way in which a new anchor-point is selected.

4. The Effects of Empirical Uncertainty.

It is important to realize that even uncertainty about certain crucial facts does *not* entail a corresponding uncertainty in the relevant recommendation. It may mean that a *final* recommendation cannot be made, but typically an *interim* recommendation of great reliability is possible, e.g. the recommendation that no action should be taken until more data is available.

On other occasions, uncertainty may be swamped by other considerations and even a direct recommendation may still be possible.

A good example is the tariff problem in economics. There are many occasions when the decision whether to increase a tariff barrier properly depends on a very complicated estimate of the relative importance to the potential domestic consumer of lower prices for a useful imported commodity and the attendant consequences of increased international trade, on the one hand, and on the other, greater stability in the domestic economy with its attendant gains of a better long-term guarantee of the availability of the (admittedly more expensive) domestic product and a better short-term employment situation, etc. The attempt to give a definite and demonstrably correct answer to such a problem is indeed a formidably difficult one, further clouded by the dependence of an answer upon unreliable long-range *predictions* as to the political repercussions of the alternative actions. But there are plenty of engineering and medical phenomena for which explanations cannot now be given with any reliability--for example, many of the crashes of the big jets, or the more general phenomenon of the efficacy of Graafian ring contraceptives. No one concludes that explanations, or even these explanations, are essentially inaccessible or essentially matters of opinion. In certain tariff disputes, the balance of known advantages for a particular decision simply swamps the alternative in the sense that none of the probable values of the unknown variables would provide enough weight to alter the balance of consideration. In such cases the proper conclusion is simply that on the evidence available, so-and-so must be recommended. The provisos that the evidence may change, and that this conclusion is less than mathematically certain, are superfluous because they are footnotes to almost any scientific conclusion.

5. The Effects of Value-Allergy.

A typical instance of such a conclusion arises where a small industry, absolutely vital for defense purposes, is faced with certain extinction unless competition from a foreign source is reduced sharply--the precision optical industry has been in this situation in the past. In a world where the possibility of war is quite significant, there can be no doubt of the proper answer. There are many situations where the trained eye and the analytical tools of the economist will uncover an equally certain decision from a mass of figures that the lay government official cannot interpret. It is nonsensical for the economist to turn shy at this point and refuse to draw the obvious conclusion. Indeed, standard government practice is increasingly to call him in as a specialist to make recommendations in such cases. The power and legitimacy of these is currently masked by the value-free myth, the mystique of the managerial decision. Of course, the 'decision', where this means the responsibility, must be managerial--or presidential, or legislative--but the fact that only the executive can legitimately make the decision in no way supports the view that only he can legitimately recommend.

A clear example of the improprieties consequent upon these misunderstandings arises in the tariff issue over the fact that direct subsidy to the affected industry is nearly always preferable to a raised tariff barrier. It is more specific, it is more honest (the taxpayer knows just how much aid is costing him), it is more easily modifiable (usually unaffected by international treaty), etc., etc. But the lobbies continually pressure the executive and legislative branches into tariff changes that are contrary to the best interests of the population as a whole, and their success in doing so is to a considerable extent due to the passive acceptance by the populus, not publicly rejected by the professional economists in solemn conclave, of the idea that such issues of policy are somehow best decided by the government. Of course, they must be executed by the government, but in cases like the one just described, it is sometimes simply a sign of incompetence if not malfeasance for the executive branch to evaluate the issue and in this sense decide what is best. For none of the relevant considerations are inaccessible to the economist and some are too technical to be easily appreciated by someone without training in economics.

There are indeed many areas of decision where the representatives of a government are best able to determine the values of those with whom it is negotiating and where the decisions it must make are crucially dependent upon those values. In such areas, the government is the specialist. But the advances of the social sciences and the techniques of communication, with the consequent diminution in the role of the Foreign Service as privileged informants, have shrunk those areas from their vast 19th century expanse. Yet the consequences of this change in the real situation have been masked by the professional confusion over the facts/value distinction. Of course, it is still often the case that 'experts' will give conflicting testimony about, e.g., the attitude of the Chinese government towards the war in Viet Nam, and the executive must adjudicate between them. In such matters we have not yet achieved substantial reliability. The conflicting recommendations of legal experts called on by a large company are probably no more consistent, yet the company does not suppose it should not use legal experts. There is a tendency to think that if a field of allegedly scientific study cannot produce a single, provably right answer it can't be a science, and if it isn't a science then anyone's judgment is as good as anyone else's. But a narrowing down or an enlarging of the possibilities, or a re-evaluation of the probabilities can be a very great step forward and this kind of step is the characteristic unit of progress in the social sciences. But it is increasingly the case that the executive will simply do a poor job, even of adjudication, unless he has an expert's training. The conception of the ideal executive as someone uncontaminated by the partisan disputes of the specialists must be set against the conception of the incompetent executive as someone unable to assess the significance of the arguments of the experts. To put the situation bluntly, the best executive is an unprejudiced expert. To the extent that expertise in all the relevant fields is an unrealistic goal, the executive must possess the habit of mind of the expert--the needle-sharp critical skills and the aseptic synthesizing capacity of the first-rate scientist--and all the general tools of the methodologies of the social sciences--he must understand the role and significance of matched controls, pilot studies, practice and Hawthorne and halo effects, survey errors and sampling procedures, minimax and maximin, the voter's paradox, and a hundred more. The executive without scientific training sometimes attains the first criterion, never the second. Social scientists often attain the second, very rarely the first. So a good executive or a good legislator ought to be a good social scientist, and since executives and legislators certainly should make decisions it follows that social scientists should.

6. Real-Value Claims Within Every Science.

Independently of this line of argument--which is a kind of back-door route to the conclusion--there is another way of supporting the conclusion at which we are aiming. We have so far proceeded by exhibiting the weaknesses in the attacks on it and showing how a better understanding of the nature of value judgments makes it clear that they are wholly composed of elements which the social scientist is best equipped to determine, combined in a way which he is again best equipped to understand. This does not show that making value judgments already falls within the presently accepted domain of the social sciences, only that there is an overwhelming case for including it within that domain. We now expand on earlier hints that it is also possible to show that social scientists must make one very important kind of value judgment just because they are scientists, and some of them must make moral value judgments, because of the particular kind of social science with which they are concerned.

That science, whether pure or applied, necessarily involves non-moral value judgments follows immediately from an examination of the scientific procedure of evaluating hypotheses, explanations, theories, experimental designs, lab and field procedures. This is the heart and soul of science, and training the student to good standards and practices in these matters is widely held to be the most important aspect of his scientific apprenticeship. Moreover, there is no way to eliminate the procedure of theory-evaluation, for example, in favor of the routine application of some standard test. This is not just valued-performance investigation, but full-scale evaluation with the value-base itself open to debate. For the merit of a theory is not equivalent to the number of true predictions it generates, or the number of true explanations, or the extent of the simplification of the data it facilitates (even if there were some useful way to measure such quantities). It is a variably weighted combination of all of these, with the successful predictions, explanations and simplifications themselves weighted according to importance, and the grand total offset by a weighted measure of the erroneous assertions or impressions. Even to talk in this imprecise way is misleading because it suggests one could discover a precise formula, by some kind of empirical or logical research. But there is no such formula because the weights are themselves variable, being--rightly--affected by the relative success of different kinds of theories in the rest of science. And even at one particular time, the notion of establishing 'the exact quantitative measure of the merit of a theory' is unrealistic because of the many dubious methodological presuppositions that would have to be built into any such measure. Good and bad estimates are possible, but precise ones are not.

The evaluation of theories (or experiments, or interpretations), like the evaluation of used automobiles, can be done expertly or ineptly; it is a skill and not a matter of taste. The scientist, qua scientist, must make real-value judgments.

7. Moral Value Claims in the Behavioral Sciences.

There are also many areas of applied science, for example psychotherapy, social work with delinquents, curriculum construction, public health planning, penology and pedagogy, where moral value judgments are unavoidable and the only choice lies between making them rationally and making them haphazardly. (Related considerations apply to the history of war, for example.) There will often be room for important differences of opinion on these issues, but that does not mean that neither opinion can be falsified by the facts or the future turn of events and--more importantly--it does not mean that there are no cases where the correct value judgment is demonstrable, and alternative opinions indefensible. The best treatment for juvenile delinquents and their parents, on the one hand, is debatable; but, on the other, the death penalty, for any crime, is indefensible. There is no point in beating about the bush here; with respect to every relevant argument, the abolitionists have long since won and only prejudice or ignorance keeps the change from the statute-books. The situation might change, as more refined statistics become available, or as a result of more general abolition; but the case for abolition at the moment is better than the case for the special theory of relativity. This is a straightforward real-value judgment conclusion, against which it would be hard to find a single voice raised by anyone with a thorough knowledge of the evidence. Is it not part of the province of penology to draw such a conclusion? If not, why not--when the claim is substantiable and of obvious relevance to the subject-matter? If it is replied that there are moral presuppositions and implications of such a claim, the contention cannot be denied. But why deny it? There is nothing subjective about the moral claim that killing is morally undesirable; it follows immediately from the human desire to live and the defining axiom of morality--the equality of rights. If someone argues that a murderer has broken this moral rule and hence forfeited his own right to life, he must show how this piece of homeopathic naiveté is to be supported, a task at which his predecessors have labored unflaggingly and failed unfailingly for some millenia.

These moral issues appear again and again in the social sciences. We cannot assess forms of government adequately without commenting on the extent to which they arrange, tend, or neglect to preserve the basic freedoms. Why do we consider such matters? Not just because our culture happens to value them. Our culture happens to value baseball and TV soap opera, but we do not regard concern for these as an appropriate standard to apply to a real-value judgment of another type of government. It is because there are excellent practical grounds for regarding these freedoms as necessary for or very conducive to the facilitation of the general welfare, whatever the particular tastes of the people. That is, moral considerations determine our choice of criteria for comparison between governments, ideal and actual. The arid escapism of the so-called 'empirical' school of political science produces pristine but pointless evaluations, with crucial criteria omitted or present but unexplained. It's easier but it's scientifically incompetent.

Similar points can be made about the process of psychotherapy, where the criteria for improvement or well-being must include reference to the way in which the patient treats others, such as his family, subordinates, peers and superiors. This is not just because unfavorable reactions from them may otherwise lead to a deterioration of his own welfare, but because moral obligations on the therapist require that he take account of the welfare of those who are affected by his patient's behavior. His professional task, in short--not his extraprofessional role as a citizen--requires that he be concerned with moral criteria of behavior. He is an executive--and an applied behavioral scientist.

It is sometimes thought that if the therapist did restrict his criteria to the present and future well-being of the patient, he has avoided moral considerations. But this supposition would only be true if the morality of behavior were wholly divorced from considerations of the welfare of those who manifest it, i.e. if it were cut off from the most obvious and in fact the only workable rational basis for morality. One can avoid appealing to moral considerations as such, but one cannot avoid recommending behavior that is moral.

It is a crucial feature of morality that it involves a commitment to discharge one's obligations, etc. even when selfish ends will not be served by such action. But it is a logical slip to suppose that this implies that the moral attitude is not the optimal solution to the problem of maximising personal welfare. The slip is a subtle one, but fatal. The case for morality rests on the fact that the unselfish attitude provides sources of rewards that are not available to the selfish man, and are more easily available and enduring than those which the latter requires. It follows that considerations of the welfare of a particular individual (the patient) can rationally lead to the recommendation that he adopt a less selfish attitude, i.e. a more moral attitude. So the therapist is not avoiding considerations of morality if he makes a truly thorough examination of the forms of behavior available to his patient and bases his recommendation on the patient's welfare, for there is an asymptotic convergence between this and morality. (Indeed he, perhaps more than any other behavioral scientist, provides the empirical foundation for morality.) The gap widens with the nearness of death, the extent and stability of the power of the patient, and the rigidity and profundity of his selfishness. For an omnipotent and wholly evil Devil, on the eve of his final demise, there would be no chink for the rational wedge to introduce moral considerations.

It is always the case, however, for the reason previously mentioned, that the therapist himself must apply moral criteria to the assessment of his patient's condition since they are relevant. As an applied behavioral scientist, in his particular field, he has no option. One may intellectually distinguish medical ethics from medicine, but one cannot justify disregard of one in the practice of the other. In particular, one cannot exclude defensible moral criteria from the judgment of the patient's social-psychiatric condition on the grounds that they are 'not scientific'. There's nothing scientific about insomnia or psychosomatic dermatitis; they are simply undesirable conditions and that is precisely the status of sociopathic behavior. The moment a patient whose behavior can seriously affect other people begins an interaction with a therapist he has entered a situation on which moral considerations bear and for a practitioner to ignore them is as unrealistic as ignoring the fact that a pregnancy is due to incest or rape when considering abortion. It is not merely a question of bringing in the welfare of others currently affected by the practitioner's behavior, but also that of those who will be--the spouse of the patient, the unwanted and resented child. Morality requires that their welfare be considered equally with the patient's, and good practice requires that the future interactions with them be taken into account in selecting a course of treatment for the patient.

In the design of new schools or new curricula, the adoption of new teaching techniques or arrangements for student government and discipline we find the same necessity for the fusion of moral and non-moral criteria into the overall estimate of the merits of a proposal or practice. Nor is there any difference in the role these criteria play, in the way they are established (as those held, or as those that should be held), in the extent to which they are 'imposed from without' that significantly distinguishes them from considerations of cost or availability or reliability or performance.

As a final example, it may not be inappropriate to indicate the way in which confusion about the fact/value issue has handicapped research in the social sciences via its acceptance by eminent social scientists and the National Science Foundation. That august institution has laid it down, as a condition on work on any curricular improvement that it supports, that no measures of changes in values are to be used in assessing the results of the new curriculum. This condition was accepted without dispute, by, for example, the committee of the American Sociological Association that was charged with developing secondary school materials in sociology (not without protests from some individuals, notably their executive secretary, Robert Feldmesser).

The condition is both ludicrous and vicious. One can defend, in a particular context, a distinction between the facts (about performance and the value-base) and the evaluations which result from combining these, and one might put this by saying that valuations are something over and above mere performance facts. We have endeavored to show that one should not conclude from this that value claims cannot be regarded as factual. Such a conclusion is unwarranted, but at least it is not as ludicrous as the position implicit in the NSF stand, which is that value claims should not be affected by facts. Even those who believe that values originate from some divine insight never deny the need for some facts about particular cases before they can apply their values. It follows that, even on such a theory about values, changes in knowledge affect specific value judgments. Moreover, sociology is a discipline whose discoveries are particularly relevant to many of the most important value disputes in our society, concerning attitudes to race, sex, crime and work. Surely the profession of sociology has an obligation to see that any educational enterprise it undertakes contributes towards the clarification of issues like this, and if it attempts to do so it must surely have the right to test the effects of its contribution on the beliefs of students. If some context-free line could be drawn between value judgments and factual claims, a possible defense against this complaint would be that the sociologist could teach and test for just those facts* which affect students' values. But the whole category of valued-performance claims destroys this possibility. When a white Southerner says that negros are naturally stupid, dirty, dishonest and sexually immoral, he is both evaluating them and making several factual claims about them. Of course we need to clarify what he means by 'sexually immoral'; he usually thinks it is equivalent to some testable-in-principle concept such as 'significantly deviant on scales of promiscuity, use of 'non-standard' (i.e. non-white?) sexual practices, amount of sexual activity', etc. Even if this complex predicate did apply to negros as a group, it would not follow that they are sexually immoral. To establish that it would be necessary to demonstrate that such behavior destroys more welfare than that which it obviously generates. But, without getting into that issue, who would deny that the remark quoted about negros is part of the white's evaluation of the negros, and what sociologist would deny that it is a legitimate concern of his profession and any curriculum presenting his subject to examine such claims?

Of course, one could interpret the NSF's prohibition in a very different and more optimistic way. Value-claims that are being distinguished from facts must be non-factual value claims. Very well, let us by all means neither teach nor test for value claims that cannot be given a complete ultimate foundation in fact, i.e. let us not teach arbitrary, indefensible values. Unless it can be shown that the doctrine of equal rights is arbitrary or incorrect, the pragmatic arguments for it as a foundation for a society of moderately intelligent citizens seem impressive. For rights must be allocated on some basis, or entirely disregarded. Only the very strong can hope to do better under such alternative arrangements, and so the rest have excellent reasons for combining forces against any strong-man moves. An intelligent group of repressed people wield far more destructive power than any elite group can guard against, because destruction is very much easier than defense against it. In the past the exploitation of superstition and fear has enabled power elites to survive for some time, but the lesson of recent history is that revolutions are easy. Extrapolation of this lesson points to the ultimate stability of only one arrangement, a reasonable approximation to democracy. Within the realm of personal rather than political relations, a similar argument points to morality, which is internalized democracy. Whether these particular arguments are accepted or not is unimportant. The challenge to the value-allergic social scientist is straightforward. Either _show_ that every such argument is unsound, or accept the incorporation of the sound conclusions _in_ the social sciences. For the arguments are based on facts from the social sciences and logic--and on nothing else. The purpose of this paper has been to show that none of the traditional _a priori_ arguments provide an escape from this conclusion.

---

*presumably discovered from other research

STUDENT VALUES AS EDUCATIONAL OBJECTIVES

Michael Scriven
History and Philosophy of Science
Indiana University

STUDENT VALUES AS EDUCATIONAL OBJECTIVES[*]

Michael Scriven

Introduction

Treatment of this topic raises four problems, two in the philosophy of education and two in its methodology.

1. Can one justify trying to change student values _at all_? In particular, would this make education propaganda, or would it violate some inviolable facts/value distinction?
2. Can one justify _one particular_ set of values towards which one should direct one's students? In particular, what non-trivial values could legitimately be advocated in the secular state schools of a pluralistic democracy?
3. Can one ever demonstrate the occurrence of changes in student values _due to_ the educational factor? In particular, how can one handle the control group problem (a) within the constraints of social taboos on withholding education, (b) in face of the relevant analog of the Hawthorne effect, (c) given the long time-scale probably involved in a significant value change with the consequent interference from many independent maturational variables.
4. Even more fundamentally, can one really _measure_ student values in any important sense? In particular, can one get past the superficiality of catalogs of announced values, and past the dubious inferences from projective tests, to a reliable construct of the response-tendencies that would dominate behavior in a real, conflictual, value-loaded situation?

---

[*] Expanded version of paper given at ETS Invitational Conference, New York City, Fall 1965.

Each of these questions is of very great importance and difficulty, as is attested by the vast magnitude of the relevant literature and the marked triviality of much of it. Fortunately, the limitations of length on this paper absolutely guarantee its superficiality and thereby mask its author's shortcomings. In view of the topic allotted to my distinguished colleague on the panel at this session, I shall concentrate on the two philosophical questions, although I shall say a word or two about the others. All I can really do is to state my view of the present research situation in these fields, with a brevity that will surely seem dogmatic, but with a configuration of reasons that you may find interesting. In the background of my thinking, of course, is the vast sea of the values literature, particularly the strong current containing Philip Jacob's book, Changing Values in College, and the discussions of it, especially the one by Barton together with his definitive elaboration of the general issues in his paper, "Measuring the Values of Individuals"; and of course the existing armory of tests, which we might describe as the Fifth Mental Measurements Yearbook plus appropriate (imaginary) supplements. On the philosophical side, I am thinking not only of what might be called the 100 Years War in ethics, but of the long history of debates about the role of moral education in the American school system and most recently the attempts by Hunt and Metcalf, Don Oliver, the World Law Fund, the Ethical Culture schools and others to justify or implement such practices. One could hardly do justice to even one of these projects in a few minutes of comment, and so I shall do an injustice to the subject as a whole instead.

My answers to these four questions require a one-sentence preamble. (However, it may be the most complex one-sentence preamble you have ever encountered.) We must distinguish values in the very widest sense, which includes standards of any kind referring to any field (preferential values), from moral (normative) values and these in turn from personal standards of behavior and thought (prudential and conventional values); and we must distinguish between the widest spread of the term "value," which includes every item-preference, and the sense in which it refers to more abstract criteria (honesty, etc.); and we must distinguish objective values (if any) from (a) falsely professed values, (b) truly professed values, (c) truly professed and actually operative values, and (d) implicit values*; and we must distinguish values in the sense of external goals from values in the sense of internal sets or attitudes, and values as individual properties from values as group properties. The reason we must make these distinctions is not that they have any effect on the answers, because they do not, but simply that if we don't, someone will be sure that by overlooking them we have invalidated our arguments. The answers themselves also require only one sentence, and if only we could say as much (or as little) for their justification, we could all go home early. Of course, there can't be anything very novel about anyone's answers to these questions since all possible sets of answers have been given many times. The novelty, if any, must lie in the particular procedure of justification. Indeed, what is most striking about these issues is the number of bad arguments that are adduced for correct conclusions. To answer the questions then: we can frequently justify trying to change student values in the classroom; we can frequently justify trying to change them in a particular direction; we can in fact measure them and change them and show that we do.

---

*Values that their owners reject but which nevertheless motivate them.

These answers have a nice nineteenth century naivete about them, and the sharp specialist is likely to view them with suspicion although probably a majority of us, at least secretly, believe that they are the right answers. What has led specialists to suspect these answers? Mainly the profound difficulties that have emerged in the field of ethics with the utilitarian and naturalistic approaches, in the field of tests and measurements with validation of the allegedly value-sensitive instruments, and in the field of experimental design with the analysis of long-term, ex post facto designs. I propose to say a very few words about each kind of difficulty but considerably more about the philosophical issues than the methodological ones.

The "Value-Free" and "Value-Involved" Positions

A great deal of discussion has gone on between the advocates of a "value-free" social science and what we might call the "value-involved" school. The discussion has been extraordinarily deficient in the kind of painstaking examination of simple examples that corresponds in logic to the collection and study of extensive data in the empirical sciences. Perhaps this is because the Wittgensteinian revolution in philosophy mainly consists in the realization that there is an activity of "logical data-collecting" which is absolutely fundamental to the formulation of logical theories. A priori theories are just as inappropriate in logic as in science, even though a logical theory itself will, and a scientific one will not, be a priori in another sense.

If we do examine the kind of value judgments that are often fully supportable in the consumer research field, for example, and the kind of recommendations that are often justified to the hilt in the medical field, we begin to smell a rat in the value-free story. It seems clear enough that certain value judgments can be backed up all the way back to breakfast, *using* the resources of various sciences and technologies. Whether we call the propounder of such claims a scientist, an engineer, an executive, a consultant, a philosopher, or a technician seems singularly insignificant. If it is appropriate for a public health officer to condemn certain food-processing practices on the basis of extensive bacterial and other tests, and in terms of a set of criteria based on many years of field experience by many other doctors, it seems less interesting to argue about classifying his job than to recognize his action as the production of a scientifically warranted value judgment. And his condemnation is not intrinsically different from condemnations by specialist anthropologists of early practices by the Bureau of Indian Affairs, by psychologists of certain uses of the I.Q. test, by penologists of the death penalty, by political scientists of the form of government of the District of Columbia, by labor sociologists of pure piece-work wage structures, by economists of tariff raises as a protective device for a domestic industry, or for that matter, by physicists of certain interpretations of quantum theory. Criticism and approval are a necessary part of the process of internal improvement of a science, as well as of the process of external application of science, and value judgments expressing them are important and complex, and hence much debated, but absolutely inescapable--except by the ostrich route.

Of course, value judgments do not spring full-fledged from *the facts about the entity being evaluated*, but that does not show they are not empirical. They require a careful combination of those facts with other *facts about the needs, wants, and ideals of the valuing agents*.

It is perfectly true that the codification of public health standards is greatly simplified by the remarkable *universality* of the desire to avoid ill-health, which is quite distinct from its validity. (I will discuss validity in a moment.) The basic value which the public health officer combines with his bacterial counts and sampling procedures, i.e. with his specifically scientific skills, is rather more easily identified as the chief relevant value than those which bear on the great disputes in the social fields. All that follows from this is that the value judgments with which the social scientist is concerned need more of his professional skills before they can be substantiated. For it is his skills that are required to identify the wants and needs and ideals of the people concerned. The value-free protagonist imagines that the scientist's task ends with presenting the facts about the alternatives being evaluated--let us say, about the use of advanced placement tests or new biology curricula. Then, on this account, the decision-maker selects in accordance with his own values. What an abrogation of professional responsibility this is! It is simply a fancy dress version of the old buck-passing and fee-splitting games. Suppose that the market research and package designing firms hired by a cereal manufacturer to face-lift its line were to come up with seven different packages and the comment that these appeal to various groups, and the manufacturer can just make his own decision. But how does he make it, if their groups do not happen to coincide with the ones of interest to him? They would have done either half or twice the job for which they were hired. It is up to them to find out, at the beginning of their research, which market is being attacked, or what parameters are to be used if a combination of sub-markets is to be invaded. And they won't get this answer in that form by just asking for it; they'll probably have to ask a great many questions, construct hypothetical situations, look at the power structure of the firm in order to be sure that they're getting the answers from the source that will make the decision, etc. And they'll probably have to redo some of this values-investigation as they get near the end of the market research work. They are being asked for a specific recommendation and some of the justification for it is the inquirer's own values-in-practice, which he may perceive most imperfectly.

Notice that I am not suggesting the imposition of the consultant's values on the client, simply the investigation of the client's values by the consultant, as part of making his recommendation, his value judgment of the alternatives that confront the client.

An exactly analogous procedure is followed by the responsible psychotherapist, and the methodology of the general practitioner is--or should be--simpler only in degree. Now education, from the point of view of experimental design, is simply psychotherapy of the unsick, in most school systems, at least. The "medical model" is the proper model for educational research. We need have no fear about the fact/value distinction --it exists, but it only warns us of a difference between two phases of our professional activities. Our goal, in value matters, should be the discovery of the solution to problems of selection and rejection that require our professional expertise, and the demonstration, to those who face the problem, of the validity of our solution. Where the client does not have the expertise to comprehend the demonstration, he must, as with his doctor's recommendations, decide on its merit by using secondary indicators such as professional qualifications, the opinion of independent experts, reputation and record, etc. And to the extent that the facts are not available or do not determine a unique solution, our obligation is to explain this situation too.

A Validation Procedure

I am presupposing a practical kind of value-reasoning here, committed to the following principles:

1. If doing something will bring about a state of affairs that people value, that is a good prima facie reason for doing it.
2. If there are prima facie reasons for doing something and none against, we should do it. (It is not necessary to have a guarantee that there is not or will not be anything wrong with our decision, any more than we demand similar guarantees before adopting and acting upon a scientific claim.)
3. If there is a conflict of supportable prima facie reasons, due to an interpersonal conflict of interest, appeal must be made to a general moral principle. (Other types of conflict of reason are settled as in any case of conflicting evidence.) Only one appears defensible and it is all that is necessary. It is the principle of prima facie equality of rights for all parties to the dispute (explained in 5.).
4. This egalitarian principle can be defended on the temporizing ground that we are already committed to it--politically in a democracy, and theologically in almost all systems of religious ethics. Or it may be defended directly, by a consideration of the advantages and disadvantages of this and alternative allocations of rights, as solutions to a strategy problem in game theory.
5. Prima facie equality of consideration means actual equality of consideration except where inequalities can be defended on the basis of equality. For example, providing the President with a bodyguard is an inequality of consideration, but

it does not represent an undemocratic or unjust or immoral arrangement because it can be defended in terms of the advantages for everyone of continuity in government, defense of the head public servant from a jeopardy which would, if serious, deter enlistment of the best men as presidential candidates, etc. It is easy enough on this basis to justify a system of law, including (a) punishment for the transgressor, (b) justice in its administration, and (c) many other values from the usual moral systems, with some appeal to certain empirical claims about the consequences of certain types of behavior, e.g., the absence of previously announced penalties for misdemeanors.

6. In particular, certain attitudes (values, wants, etc.) can be criticised as immoral if alternatives are humanly possible and would be more consistent with the equality axiom, i.e. with morality. The need to eat or avoid pain can hardly be morally questionable, but a passionate desire for aggrandisement or riches at the expense of others' happiness or legally rightful property can be so criticised. Hence, we do not accept as fixed constraints on the process of equal consideration the present values of the participants. Where conflict arises, those with morally indefensible values are accorded less than equal consideration in the distribution process. Hence, when a case can be made along these lines, we can reject certain demands as illicit, e.g. demands for the death penalty as a kind of social vengeance.

The advantage of this approach to value-reasoning is that recommendations based on it are defensible in the same way that eating is defensible, i.e. as means to human ends, and they provide us with a basis for social action no more and no less empirical than the basis for engineering action. The system thus developed itself encourages extreme caution in taking actions that seriously and adversely affect human beings except where the evidence is extremely strong, but this essential conservatism will also be found in the engineering field where very large investments are involved.

In short, the popularity of a value does not by itself guarantee its validity in any way. If, however, a value is held and if it cannot be shown to be a derived value based on faulty reasoning or false premises, or to be in conflict with other values of the same person which are more important to that person, or to be in conflict with values of others which do not themselves exhibit fatal flaws of these kinds and which are more important from the moral point of view, then acting to promote this value is justified.

The Practical Consequences for Education.

I have been dealing in rather abstract terms for a few paragraphs, but the practical implications are extremely powerful. I am saying that the question of which curriculum or educational procedures a certain school system should adopt is simply part of the professional social scientist's task to discover. I do not say to determine, for that is a matter of where the power lies and it lies elsewhere. But the problem is just a problem in the applied social sciences. So far, perhaps, it may still seem that we have a relatively bland conclusion. But it follows automatically from this conclusion, as special cases follow from a general case, that it is simply a problem of applied social science to decide on the way in which communism is discussed, the kind of disciplinary standards that are imposed, the use of physical punishment to enforce these standards, the expulsion or transfer of undisciplined students, the application of skill-grading instead of age-grading, the use of programmed texts or computer-controlled learning, the introduction of merit increases and differentials, the treatment of religion as a sign of cultural backwardness, the encouragement of overt criticism of U. S. foreign policy, the American Legion, motherhood, and marriage. These issues are _in no way_ properly the province of the untrained citizen, taxpayer or not. I stress again that the political _power_ may ultimately lie with the lay citizen, as it does on matters of the allocation of funds between research on cancer and on schizophrenia, but that in no way justifies his making the decision. The opposite view has been foolishly fostered in this country, is unfortunately encouraged by the legal--indeed mystical--enshrinement of local control of schools, and is ludicrously identified as either a shining product or a fundamental pillar of democracy despite the striking evidence to the contrary in this and other countries.

Of course I am well aware of the extent of the disagreement between professional social scientists about many of these issues. Indeed, if it is necessary to produce a definite answer _now_, many of these questions might as well be settled by the citizenry (or by the flip of a coin) as by the experts because of our present lack of data. But of course the scientific position here must be that _no action_ based on confidence in _either_ answer is appropriate, _not_ that actions based on confidence in _both_ are perfectly appropriate. The rational strategy when answers aren't known is not to suppose that both answers are known. This confusion is as serious a consequence of the value-free position as the failure to recommend an answer where it is clearly supported.

So the lack of answers is not grounds for a lack of recommendations, but grounds for a different and more complex and cautious kind of recommendation, e.g. of experimental trials of each alternative. But many of the above issues provide us with a considerably more promising prospect of definite answers. Now often, where the discussion is already well advanced, it is too technical for the average parent. It is then the job of the educational psychologist to draw the conclusions, including the recommendations.

Student Values

The random list of issues just given includes a number that refer directly to student values, and almost all affect them indirectly. Take two particular examples: the basic disciplinary problem of maintaining sufficient order in the classroom to make teaching possible, and the teaching of scientific method or "critical thinking" in the social studies areas.

The idea of public education does not merely encourage, it presupposes sufficient discipline in the classroom to enable the teacher and pupils to perform their assigned roles--and so of course it requires the imposition on the student by the teacher of a very definite behavioral value-system. And either expulsion or corporal punishment of the trouble-makers may have to be part of the teacher's repertoire if he or she is to discharge this fundamental obligation to the other students and the society. The justification of this kind of value-conclusion, in certain circumstances, is perfectly straightforward.

We are not obliged to call for a local referendum on whether to teach genetics and comparative psychology or sociology according to the presently best supported views, whether or not these views have consequences which are offensive to an ardent racist majority in a given school district. If we are attacked for such teaching, we regard the attack as entirely improper. This is a moral judgment for which there are both moral and sound practical reasons. Teaching the truth, i.e. best-supported theory, is a pretty well-based value (cf. Lysenkoism). And in doing this we will concurrently teach values of two kinds, if we teach well. We will be teaching the general value of objectivity, of the scientific approach, as the most effective way of arriving at the truth. And we will be teaching how to apply this general method to socially and practically important issues. Amongst other examples, this will involve teaching that (or teaching the student to discover that) many of the segregationist arguments are simply ignorant nonsense. Of course this kind of teaching affects their values--not automatically or simply but frequently significantly. There is only one alternative to value-directed and value-affecting teaching in the social studies and related areas and that is not just cowardice but incompetence, professional incompetence.

The Moral Issues

Clearly a moral element is highly important in some of these value issues. Of course, I am suggesting that the properly trained social scientist specialist is better equipped than the average citizen to decide on the moral rights and wrongs of issues. Not only the effect of certain moral standards on behavior is a proper object of study for the social scientist (e.g. the anthropologist), but the very formulation and justification of these standards is an exercise in the applied social sciences, in the augmented contemporary form that includes game theory, comparative law, decision theory and other methodologies. Moral standards are simply the behavioral imperatives associated with a particular kind of social institution, a morality or ethic, which is identified by the precedence status of its rules, the type of sanctions associated with infractions of them, their range of application, etc. As with other social institutions we can ask how effectively a morality serves the "purposes of the society," i.e. the needs and wants of its members. That is, we can evaluate moralities. Not just in terms of our local morality, but in terms of the basic needs which provide the foundation of all moralities.

It is true that morality is the most subtle and complex social institution of all, and it is so loaded with our own emotions and mythologies that social scientists have typically either denied the possibility of making normative judgments about it or made such judgments on the basis of excessively crude caricatures of it. Nor have the philosophers been of much assistance. Since Mill's death, the discussion of utilitarianism has been marked by a level of criticism not worthy of his contribution. Important criticisms do exist, and have to be met, and can be met along the lines indicated earlier. The key move in meeting them is the recognition that the original version of utilitarianism took too permissive a view of existing utilities. It is inadequate to recommend the choice of actions or rules on the basis of maximizing expectations of current utilities (however that ambiguous recommendation is interpreted). It is essential that one regard each individual's attitudes as parameters and not constants in the assessment of behavior, parameters that are not only functions of time but also partly functions of our own deliberate decisions. The social scientist is no stranger to assessment of the functional or nonfunctional social role of attitudes, which are (or reflect, or embody, etc.) one kind of value. And that kind of assessment is precisely and entirely what is involved in the evaluation of moral standards and hence in the moral evaluation of behavior.

In our particular society, of course, it is widely maintained that morality is somehow the province of, or dependent upon, religion, but this view receives less and less support the higher one moves in the echelons of theologians--it is in fact a crude and indefensible view avidly propagated by lay churchmen. For, in theistic religions, morality is normally represented as the wishes or law of God, and this gives rise to two unsolvable problems: providing a satisfactory proof of the existence of God and showing that, if He did exist it would be morally obligatory to obey His wishes. That neither proof will ever be furnished is made extremely probable by two millenia of unsuccessful attempts and certain logical peculiarities of the problem.

In the absence of any such proofs it is, on the other hand, perfectly easy to demonstrate that there is strong survival value in a group morality; and possible, though not easy, to show that the morality based on the principle of equal rights is the optimal one. From the axiom of equal rights, together with various facts about the organization and institutions of the society, it is possible to derive the secondary values of justice, honesty, truth, trust and so on.* Morality, in this secular version, has a very simple formal structure and a very simple justification, and unless an alternative version can be objectively justified, we have the very best of reasons--the survival and welfare of each of us--to support, propagate, and work out the ramifications and applications of this system to practical life. Politically speaking, the advantage of the system just described is that its only axiom is a proposition which this country takes to be definitional of its form of government, and hence there can scarcely be any objection to teaching its consequences in the public schools. Where these consequences conflict with the moral views of various sects, the sects are to that extent guilty of undemocratic values and would have to demonstrate the error in democracy before they could make a case against this kind of value teaching in schools. (An obvious example of the consequences of undemocratic values is support for general legislation preventing the availability of efficient means of birth control.)

---

*See "Morality" in Primary Philosophy, Michael Scriven, McGraw-Hill, 1966.

So the basis of morality is simply a matter of the relative social efficiency of different attitudes towards the rights of others, and, little as we can say for sure about that, it is all we can say about morality. In short, we can justify particular moral judgments and thus justify teaching them where relevant in exactly the same way as we can justify teaching particular scientific assertions that follow from a general scientific theory for which there is good evidence.

Teaching Values

This kind of conclusion makes some people extremely nervous. It should not. I say that the justification of moral and scientific claims proceeds in exactly the same way and this has three important consequences.

1. We teach as facts only those assertions which really can be objectively established (such as the immorality of the death penalty and the possibility of justifying treason and suicide in certain cases); others we teach as hypotheses.[*] Hence, we do not violate the rights of

---

[*] It is irrelevant that these issues are still controversial. The only relevant question is whether each side has an equally defensible position, in the light of all we now know. We can't make omelettes

without breaking eggs and we can't make social progress without treading on somebody's toes. That's the name of the game.

---

others to make their own choices where choice is rationally possible, nor their right to know the truth where it is known.

2. Good teaching does not consist primarily in requiring the memorization of conclusions the teacher thinks are true, but in developing the skills needed to arrive at and test conclusions. Of course, this is especially crucial in moral matters, since conclusions without understanding of the arguments for them are rejected as soon as they conflict with inclinations. This is the distinction between teaching and brainwashing, and it can only be implemented gradually, since some values--a degree of obedience to parental commands, for example--must be indoctrinated in the infant before he can understand the reasons for them. But the distinction is absolutely fundamental because it is a moral obligation (as well as a pragmatic one) not to force on others views which they are given no chance to assess.

3. That certain conclusions should now be treated as established does not mean they cannot ever turn out to be wrong. The quantum theory and the death penalty and the use of cigarettes may have to be reassessed in the light of new evidence, but that in no way justifies tentativeness in discussing their present status, which is exceptionally clear and well-documented with respect to many (though naturally not all) of the most important questions about them.

So I provide answers of a very clear kind to the first two problems; we can justify teaching values (which we already do) and we can justify particular values to teach. It does not follow from the fact that the answers to these questions are clear that we are now in possession of final answers to all specific questions about value. Of course, the answer that we do not now know the answer is itself a clear and extremely valuable answer to a value-question. Though it is not as valuable as a "final"--i.e. a partisan and well-supported--answer would be, it is just as clear, and it makes certain actions indefensible and others proper and thus often provides just the information required by the inquirer.

A final warning and a final note of encouragement about value instruction: It is of course essential to distinguish cognitive and affective capacities here, and to direct educational effort along both dimensions. Moral analysis in particular and value analysis in general, are extremely complicated disciplines in which the cognitive methodology is not that of physics or mathematics or literature, but that of the law--and they must be taught for as many years as it takes to make a good criminal or constitutional lawyer, though the teaching can begin before kindergarten and be concurrent with other schooling. We have an absurd idea that an hour or two a month in optional Sunday schools will take care of this prodigious task of intellectual training. We fully deserve the level of moral discussion that results from such non-education.

Moral behavior requires moral motivation as well as moral insight, and the mainspring for that (for an egalitarian morality) is identification with others, empathy, sympathy. . . This, too, can be taught, from the very earliest ages, but not by parroting the results of the cognitive research. It can be taught by role-changing games, by tests of prediction skills about the behavior of highly different others, by the use of highly graphic audio-visual material and by direct field experience supplemented with appropriate interviews and discussions.

So moral conclusions and moral behavior should be taught and taught about if for no other reason than that it's immoral to keep students ignorant of the empirical punch behind the morality behind the law and the institutions which incorporate this country's virtues and permit its vices.

Problems of Testing

A final word or two about the methodological problems: I want to stress a consideration of scale. There isn't anything particularly difficult about thorough empirical studies of value and value-change agencies, if you get the problem on the right scale. Designing, performing and analyzing such experiments must be seen as a major research operation, for the value structure of even a single individual is as hard to untangle as the fiscal policy or power structure of a large corporation where overt deception, self-deception and just plain obscurity combine to provide truly formidable obstacles. Perhaps we can perform impressive economies by ingenious experiments in the values field, perhaps we can run a decent values inventory for 1/10 the cost of a corporation survey, but we certainly cannot perform miracles and do it for 1/1000 or 1/10000 of the cost, especially not until we have run enough of the big studies to validate short-cut instruments.

When it comes to showing what factors cause value change on a large scale, a minimal cost model must be the lung cancer studies, whereas in practice our model is a marketing study on the effect of a new blue can on the sale of Hamm's beer. Sales are observable--even lung cancer is indirectly or (post-mortem) eventually observable--but we are dealing with a highly abstract inferential construct as our dependent variable. That means we must have much more elaborate confirmatory and investigative techniques. In the time dimension, heavy smoking, unlike a change of container, has to continue for a considerable time before it has any effect on the dependent variable and for this reason provides a more realistic analog to a value-change study. Now think of the tens of millions of dollars behind the smoking study and ask yourself where we can find a hundredth of that amount behind a values study.

Realistically, in the absence of such funds, three courses of action recommend themselves:

1. A carefully argued presentation, every time we go up for funding, as to the minimal scale that is necessary for socially meaningful results, backed up by general arguments to this point formulated as statements of policy by our professional associations. (Just keep saying in a loud voice, "We still don't know if any kind of psychotherapy is effective, after 50 years of research on the wrong scale. Is that what we want here?")
2. Where we can't go for socially significant results, we can go for locally significant results. Define the research problem in terms of values which really matter in a particular small community--a village, a campus, a dormitory, a classroom--and you can afford to tap a very narrow range and still get substantial magnification of the sensitivity of your instruments and the leverage of your results via the emotional loading: you can even afford to go for explicit values only, and still get useful results.
3. Most fundamentally, improve the instruments, which are still about as appropriate as stone axes in an electronics workshop. Instrument development (not validation for general use) can be done with a sample of half a dozen subjects, and there are plenty of hints around as to how it should be done, in the occasional good work and in the techniques of other fields.

We've had the Vernon-Allport-Lindzey work around for 15 years and yet three-quarters of the more recent tests make errors they show how to avoid.* It is a sad commentary on the state of the art that these tests should be selling well enough to encourage publishers to produce them.

But there are a dozen unexploited avenues here. Why aren't we using Q-sort and R-sort methodology, forced and free, with all its advantages and highly developed techniques? (There is a hint of how this might be done in Carl Rogers' use of self-sorts for the 'ideal self' in the Chicago Counselling Center work on non-directive therapy.) Why such crude uses of semantic differential techniques, which have been so far refined in the study of verbal behavior and perception? Above all, why aren't we applying what is perhaps the key feature of programmed texts--a feature wholly immune to any of the criticisms of that technique and one characteristic of many of the best-validated instruments in the total test repertoire such as the Multiphasic--the 'fragmentation' technique? We can't just throw a whole way of life at someone for rating, as Morris does, and hope to get the subject's value structure out of the single response. Even using 13 of them assumes that factor analysis has an independent intelligence somewhat transcending God's. Values are what determines the subject's response in a half-way decent instrument, and *the most direct way* of getting to them without hitting them over the head in the process is the best. An important and clever step in the right direction can be found in Roy Carter's study, where the subject rates on a 5-scale *each point* made by the discussants in an imaginary debate about

---

*Providence has rewarded them with a copyright on the ideal acronym --only their work can be called *the* VALue study.

the best way to run a society. Here we approach a factorizable situation, and with more rephrasing of the same points to check our interpretations, and a more limited scope, the instrument (or a family like it) could become extremely valuable. Finally, if we were to elect a single study as the most ingenious and conceptually significant research on values, I have little doubt that the Hartshorne and May study would win in a walk. And when was it published? 1928! The shame of it all! Here is a study which has the advantage of getting at values that are embodied in action, but values which are still rationally inferable from the actions (unlike the leap of blind faith in the They Went to College approach), and which additionally revealed the startling and important multifactor nature of the concept of dishonesty or deceitfulness. But where are the refinements and replications? Where are the extensions of this to other value concepts? Well, one can at least say that in values research there is plenty of room for good work.

Concluding Questions

I want to end with a question. Much of the empirical work raises deep and important methodological questions--for example, the Hartshorne and May work raises the important question of the criteria for utility of concepts with non-correlating components. These questions require further thought by the fraternity. But I shall ask a simpler and more practical value-judgmental question. We are all familiar with the discrepancy between explicit and implicit values, between avowed or espoused and real values. One's natural tendency is to view this with distaste, or regret, as a sign of dishonesty, or lack of self-knowledge. But is this always the case--may not the distinction serve useful purposes, even be justifiable; in particular, should it be an educational objective to coalesce espoused and actual values? To put the question in a form that supports the other answer: should not ideals always be ahead of one? How far ahead before they are unrealistic or discouraging? The justification of almost any program of child education depends on the answers. But we know nothing useful about the answer. How little we know about the role of values!

THE METHODOLOGY OF EVALUATION

Michael Scriven
History and Philosophy of Science
Indiana University

THE METHODOLOGY OF EVALUATION

0. Introduction.

Current conceptions of the evaluation of educational instruments (e.g. new curricula, programmed texts, inductive methods, individual teachers) are still inadequate both philosophically and practically. This paper attempts to exhibit and reduce some of the deficiencies. Intellectual progress is possible only because newcomers can stand on the shoulders of giants. This feat is often confused with treading on their toes, particularly but not only by the newcomer. I confess a special obligation to Professor Cronbach's work[1], and to valuable discussions with the personnel of CIRCE at the University of Illinois.

1. Outline.

The main focus of this paper is on curricular evaluation but almost all the points made transfer immediately to other kinds of evaluation. Section headings are reasonably self-explanatory and occur in the following order:

1. Outline.
2. Goals of Evaluation versus Roles of Evaluation.
3. Arguments for and against Formative and Summative Evaluation.

---

[1] "Evaluation for Course Improvement", Teachers' College Record, Vol. 64, No. 8, May 1963, reprinted in New Curricula (Ed. R. Heath, Pub. Harper & Rowe 1964, pp. 231-248); references in this paper are to the latter version.

4. Evaluation versus Process Studies.
5. Evaluation versus Estimation of Goal Achievement.
6. Instrumental versus Consequential Evaluation.
7. Comparative versus Non-Comparative Evaluation.
8. Comparative Evaluation - The Criteria of Educational Achievement.
9. Values and Costs.
10. Another Kind of Evaluation - 'Explanatory Evaluation'.
11. Conclusions.

The discussion in the earlier sections is relatively elementary and etiological, progressing to an occasionally more difficult and generally more practical level in later sections.

2. Goals of Evaluation versus Roles of Evaluation.

The aims of evaluation may be thought of in two ways. At the general level, we may talk of the goals of evaluation; in a particular educational context, of the roles of evaluation.

In general, we may say that evaluation attempts to answer certain types of question about certain entities. The types of question include questions of the form "How well does this instrument perform (with respect to such-and-such criteria)?", "Does it perform better than this other instrument?", "What does this instrument do (i.e. what variables from the group in which we are interested are significantly affected by its application)?", "Is the use of this instrument worth what it's costing?". Evaluation is itself a logical activity which is essentially similar whether we are trying to evaluate coffee machines or teaching machines, plans for a house or plans for a curriculum. The activity consists simply in the gathering and combining of performance data with a weighted set of goal scales to yield either comparative or numerical ratings.

But the role which evaluation has in a particular educational context may be enormously various; it may form part of a teacher training activity, of the process of curriculum development, of a field experiment connected with the improvement of learning theory, of an investigation preliminary to a decision about purchase or rejection of materials, it may be a data-gathering activity for supporting a request for tax increases or research support, or a preliminary to the reward or punishment of people as in an executive training program, a prison, or a classroom. Failure to make this rather obvious distinction between the roles and goals of evaluation, not necessarily in this terminology, is one of the factors that has led to the dilution of the process of evaluation to the point where it can no longer serve as a basis for answering the questions which are its goal. This dilution has sacrificed goals to roles. One can only be against evaluation if one can show that it is improper to seek for an answer to questions of the above kind, and this involves showing that there are no legitimate activities (roles) in which these questions can be raised, an extraordinary claim. Obviously the fact that evaluation is sometimes used in an inappropriate role hardly justifies the conclusion that we never need to know the answers to the goal questions.

One role that has often and sensibly been assigned to evaluation is as an important part of the process of curriculum development. Obviously such a role does not preclude evaluation of the final product of this process. Evaluation can obviously play several roles. Yet it is clear from the treatment of evaluation in some of the recent literature and in a number of recent research proposals involving several million dollars that the assumption is being made that one's obligations in the direction of evaluation are fully discharged by having it appear somewhere in a project. Not only can it have several roles with respect to one educational enterprise, but with respect to each of these it may have several goals. Thus, it may have a role in the improvement of the curriculum and with respect to this role several types of question (goals) may be raised, such as "Is the curriculum at this point really getting across the distinction between prejudice and commitment?", "Is it taking too large a proportion of the available time to make this point?", etc. In another role, the evaluation process may be brought to bear on the question of whether the entire finished curriculum, refined by use of the evaluation process in its first role, represents a sufficiently significant advance on the available alternatives to justify the expense of adoption by a school system.

One of the reasons for the tolerance or indeed encouragement of the confusion between roles and goals is the well-meaning attempt to allay the anxiety on the part of teachers that the word "evaluation" precipitates. By stressing the constructive part evaluation may play in non-threatening activities (roles) we slur over the fact that its goals are always the same - the estimation of merit, worth, value, etc. which all too clearly serves in another role as part of the evaluation of personnel and courses. It is unfortunate that we should be tackling anxiety about evaluation by reducing its importance and confusing its presentation; the loss in efficiency is too great. Business firms can't keep executives or factories on when they know they are not doing good work and a society shouldn't have to retain textbooks, courses, teachers and superintendents that do a poor job when a better performance is possible. The appropriate way to handle anxiety of this kind is by finding tasks for which a better prognosis is possible for the individual in question. Failure to evaluate pupils' performance leads to the gross inefficiencies of the age-graded classroom, and failure to evaluate teachers' performances leads to the correlative inefficiency of incompetent instruction. A little toughening of the moral fibre is required if we are not to shirk the social responsibilities of the educational branch of our culture. Thus, it may even be true that "the greatest service evaluation can perform is to identify aspects of the course where revision is desirable" (Cronbach, p.236), though it is not clear how one would establish this, but it is certainly also true that there are other extremely important services which must be done for almost any given project. And there are many contexts in which calling an evaluator in to perform a final evaluation of the project or person is an act of proper recognition of responsibility to the person, product or taxpayers. It therefore seems a little excessive to refer to this as simply "a menial role", as Cronbach does. It is obviously a great service if this kind of terminal evaluation (we might call it summative as opposed to formative evaluation) can demonstrate that a very expensive textbook is not significantly better than the competition, or that it is enormously better than any competitor. In more general terms it may be possible to demonstrate that a certain type of approach to e.g. mathematics is not yielding significantly better pupil performance on any dimension that mathematicians are prepared to regard as important. This would certainly save a great deal of expenditure of time and money and constitute a valuable contribution to educational development, as would the converse, favorable, result. Thus there seem to be a number of qualifications that would have to be made before one could accept a statement asserting the greater importance of formative evaluation by comparison with summative. ("Evaluation, used to improve the course while it is still fluid, contributes more to improvement of education than evaluation used to appraise a product already placed on the market." Cronbach, p.236) Fortunately we do not have to make this choice. Educational projects, particularly curricular ones, clearly must attempt to make best use of evaluation in both these roles.

Now any curriculum reformer is automatically engaged in formative evaluation, except on a very strict interpretation of 'evaluation'. He is presumably doing what he is doing because he judges that the material being presented in the existing curriculum is unsatisfactory. So as he proceeds to contruct the new material he is constantly evaluating his own material as better than that which is already current. Unless entirely ignorant of his shortcomings. as a judge of his own work, he is presumably engaged in field-testing the work while it is being developed, and in so doing he gets feedback on the basis of which he again produces revisions; this is of course formative evaluation. He is usually involved with colleagues, e.g. the classroom teacher or peers, who comment on the material as they see it - again, this is evaluation and it produces changes which are allegedly for the better. If the recommendation for formative evaluation has any content at all, it presumably amounts to the suggestion that a professional evaluator should be added to the curriculum construction project. There certainly can be advantages in this, but it is equally clear from practical experience that there can be disadvantages. But this argument is clearly not the same as the argument about summative evaluation. We devote part of the next section to a discussion of the pros and cons of formative evaluation.

3. Arguments for and against Formative and Summative Evaluation.

The basic fact is that the evaluator, while a professional in his own field, is usually not a professional in the field relevant to the curriculum being reformed or, if he is, he is not committed to the particular development being undertaken. This leads to clashes and failures to communicate of a kind which are all too familiar to project directors today.

From these 'failures of communication' between evaluators and teachers or curriculum makers there have sprung some unfortunate overreactions. The total anti-evaluation line is all too frequently a rationalization of the anxiety provoked by the presence of an external judge, not identified with or committed to (or perhaps even understanding) the ideals of the project. The equally indefensible opposite extreme is represented by the self-perceived tough-minded operationalist evaluator, all too likely to say "If you can't tell me what variables you are affecting, in operational terms, they can't be tested, and as long as they haven't been tested you haven't any reason for thinking you are making a contribution".

In order to develop a fair treatment of these views let us consider the difference between a contemporary educational project involving the development of a new curriculum or teaching method, and the co-authoring of a new ninth-grade algebra text by two or three teachers in the late 1930's. In the first place, the present projects are typically supported from government funds on a very large scale. The justification of this expenditure calls for some kind of objective evidence that the product was valuable. Moreover future support for work in this area or by these same workers requires some objective evidence as to their merit at this kind of job. Since there are not sufficient funds to support all applicants, judgements of comparative merit are necessary; and objective bases for this are trivially superior to mere person-endorsements by peers, etc. Finally, the enormous costs involved in the adoption of such products by school systems commit another great slice of taxpayers' money and this kind of commitment should presumably be made only on the basis of rather substantial evidence for its justification. In this context, summative evaluation is an inescapable obligation on the project director, and an obvious requirement by the sponsoring agency, and a desideratum as far as the schools are concerned. And since formative evaluation is part of a rational approach to producing good results on the summative evaluation, it can hardly be wholly eschewed; indeed, as we have shown, its occurrence is to some degree guaranteed by the nature of the case. But the separate question of whether professional evaluators should be employed depends very much upon the extent to which they do more harm than good - and there are a number of ways in which they can do harm.

They may simply exude a kind of skeptical spirit that dampens the creative fires of a productive group. They may be sympathetic but impose such crushing demands on operational formulation of goals as to divert too much time to an essentially secondary activity. ('Secondary' in the sense that there cannot be any evaluation without a curriculum.) The major compromise that must be effected is to have the evaluator recognise it as partly his responsibility to uncover and formulate a testable set of criteria for the course. He may be substantially helped by the fact that the project has explicitly espoused certain goals, or rejected others, and he will certainly be aided by their criticism of his formulations. However, the exchange has to be a two-way one; curriculum writers are by no means infallible, and often extremely prejudiced in describing their actual tendencies. Evaluators, on the other hand, are handicapped so long as they are less than fully familiar with the subject matter being restructured, and less than fully sympathetic with the aims of the creative group. Yet once they become identified with those aims, emotionally as well as economically, they lose something of great importance to an objective evaluation - their independence. For this reason the formative evaluators should be very sharply distinguished from the summative evaluators, with whom they may certainly work in developing an acceptable summative evaluation schema, but they should of course exclude themselves from any judgemental role.

There are other problems about the intrusion of evaluation into education, and the intrusion of an evaluator into the curriculum-making process. Several of these have been admirably expressed by J. Myron Atkin.[1] Some of them are taken up elsewhere in this paper, but some mention of two of them should be made here. The first suggestion is that testing for learning of certain rather delicate and pervasive concepts may be itself destructive, in that it makes the student too self-conscious about the role of a concept at too early a stage, thereby preventing its natural and proper development. The problem is that with respect to some of these concepts, e.g. symmetry, equilibrium and randomness, it might be the case that very little accretion occurs in the understanding of a child during any particular course or indeed any particular year of his education, but that tiny accretion may be of very great importance in the development of good scientific understanding. It would not show up on tests, indeed it might be stultified by the intrusion of tests, in any given year, but it has to be in the curriculum in order to produce the finished product that we desire. In this case, evaluation seems to be both incompetent and possibly destructive.

Such a possibility should serve as an interesting challenge to the creative curriculum-maker. While not dismissing it, he would normally respond by attempting to treat it more explicitly, perhaps at a somewhat later stage in the curriculum than it is normally first mentioned, and see whether some significant and satisfactory accretion of comprehension cannot be produced by this direct attack. Only if this failed would he turn to the evaluator and demand a considerably more sensitive instrument. Again, it would also be possible to deliberately avoid testing for this during all the early years of its peripheral introduction, and test only in the senior year in high school, for example. We can acknowledge the possibility that concerns Atkin and allow some extra material in the curriculum to handle it even without any justification from the early feedback from tests. Errors of excess are much less significant than errors of commission or omission, in curriculum-making.

---

[1] "Some Evaluation Problems in a Course Content Improvement Project", Journal of Research in Science Teaching, Vol. I, pp. 129-132 (1963).

Just as there are dangers from having a curriculum-making group discuss the present curriculum with teachers who are experienced in its use - although there are also possible advantages from this - so there are dangers and advantages in bringing the evaluator in too early. In such situations, some ingenuity on the part of the project director will often make the best of both worlds possible; for example, the evaluator may be simply introduced to the materials produced, but not to the people producing them, and his comments studied by the director with an eye to feeding back any fundamental and serious criticisms, but withholding the others until some later stage in the curriculum development activities where, for example, an extensive process of revision is about to begin. But these are practical considerations; there remain two more fundamental kinds of objection that should be mentioned briefly, of which the first is central to Atkin's misgivings.

No one who has been involved in the field-testing of a new curriculum has failed to notice the enormous variability in its appeal to students, often unpredictable from their previous academic performance. The child already interested in bird-watching will find one approach to biology far more attractive than another. Similarly, for some children the relevance of the material to problems with which they are familiar will make an enormous difference to their interest, whereas for others the properties of the hexaflexagon or the Moebius strip are immediately fascinating. More fundamentally, the structuring of the classroom situation may wholly alter the motivation for different students in different ways; the non-directive style of treatment currently regarded as desirable, partly for its supposed connection with the inductive approach, is totally unstimulating for some children, although an aggressive, competitive, critical interaction will get them up and running. In the face of this kind of variation, we are often committed to the use of the very blunt evaluation instrument of the performance, on tests, of the class as a whole. Even if we break this down into improvements in individual performances, we still have not fully exploited the potentialities of the material, which would be manifested only if we were to select the right material _and_ the right instructional technique for a child with a particular background, attitudes, interests and abilities. Perhaps, the evaluation skeptic suggests, it is more appropriate to place one's faith in the creative and academically impeccable curriculum maker, using the field tests simply to make sure that it is _possible_ to excite and teach students with the material, under appropriate circumstances. That is, our criterion should be markedly improved performance by _some_, even by a _substantial_ number, rather than by the class as a whole. To this the evaluator must reply by asking whether one is to disregard possibilities such as serious lack of comprehensibility to students at this age-level, a marked deterioration of performance in some of the students more than offsetting the gains, the possibility that it is the pedagogical skill or enthusiasm of the teacher that is responsible for the success in the field tests and not the materials? The material is to go out to other teachers; it must be determined whether it will be of any use to them. To answer these questions - and indeed for the field tests themselves - a professional job in evaluation is necessary.

We can learn something important from this criticism, however. We must certainly weigh seriously the opinions of the subject matter expert as to the flavor and quality of the curriculum content. Sometimes it will be almost all we have to go on, and sometimes it will even be enough for some decisions. It should in any event be seriously considered and sometimes heavily weighted in the evaluation process, for the absence of supporting professional consensus of this kind is often adequate grounds for complete rejection of the material.

Finally, there is the objection that hovers in the background of many of these discussions, the uneasy feeling that evaluation necessitates making value judgements, and that value judgements are essentially subjective and not scientific. This is about as intelligent a view as the view that statements about oneself are essentially subjective and hence incapable of rational substantiation. Some value judgements are essentially assertions about fundamental personal preferences and as such are factual claims which can be established or refuted by ordinary (though sometimes not easy) procedures of psychological investigation. But the process of establishing them does not show that it is right or wrong to hold these values; it only shows that it is true that somebody does or does not hold them. Another kind of value judgement is the assessment of the merit or comparative merit of some entity in a clearly defined context where this amounts to a claim that its performance is good or better than another's on clearly identifiable and clearly weighted criterion variables. With respect to value judgements of this kind, it is not only possible to find out whether or not they are believed by the individuals who assert them, but it is also possible to determine whether it is right or wrong to believe them. They are simply complex conflations of various performance ratings and the weightings of the various performances; it is in this sense that we can correctly assert that the Bulova Accutron is the best wrist chronometer currently available or that a particular desk dictionary is the best one for somebody with extensive scientific interests. Finally, there are value judgements in which the criteria themselves are debatable, a type of value judgement which is only philosophically the most important of all and whose debatability merely reflects the fact that important issues are not always easy ones. Examples of this would be the assertion that the most important role of evaluation is in the process of curriculum writing, or that the I.Q. test is an unfortunate archaism, or that the Copenhagen interpretation of quantum physics is superior to any alternative. In each of these cases, the disputes turn out to be mainly disputes about what is to count as good, rather than to be arguments about the straightforward 'facts of the situation', i.e. what is in fact good. It is immature to react to this kind of judgement as if it is contaminated with some disgusting disease; the only proper reaction is to examine the reasons that are put forward for them and see if and how the matter may be rationally discussed.

It is sometimes thought that in dealing with people, as we must in the field of education, we are necessarily involved in the field of moral value judgements, and that these really are essentially subjective. But in the first place value judgements about people are by no means necessarily moral, since they may refer to their health, intelligence and achievements; and secondly, even if they are moral, we are all presumably committed to one moral principle (the principle of the equality of rights of men) and by far the greater part of moral discourse takes place within the framework of this assumption, and is simply a rational elaboration of it in combination with complicated judgements about the consequences of alternatives. So, unless one is willing to challenge this axiom, or to provide rational support for an alternative, even moral value judgements are within the realm of rational debate. And even if one does challenge this axiom, a strong case can be made for its rational superiority over any alternatives. But whatever the outcome of such a discussion, the facts that some evaluation is moral evaluation and that some moral evaluation is controversial, do not conjointly imply the least degree of support for the conclusion that curricular evaluation is less than a fully objective activity of applied science.

4. Evaluation versus Process Studies.

In the course of clarifying the concept of evaluation it is important not to simplify it. Although the typical goals of evaluation require judgements of merit and worth, when somebody is asked to evaluate a situation or the impact of certain kinds of materials on the market, then what is being called for is an analytical description of the process, usually with respect to certain possible causal connections. In this sense it is not inappropriate to regard some kinds of process investigation as evaluation. But the range of process research only overlaps with and is neither subsumed by nor equivalent to that of evaluation. We may conveniently distinguish three types of process research, as the term is used by Cronbach and others.

1. The non-inferential study of what actually goes on in the classroom. Perhaps this has the most direct claim to being called a study of the process of teaching (learning etc.). We might for example be interested in the amount of time that the teacher talks, the amount of time that the students spend in homework for a class, the proportion of the dialogue devoted to explaining, defining, opining, etc. (B.O. Smith & Milton Meux). The great problem about work like this is to show that it is worth doing, in any sense. Some pure research is idle research. The Smith and Meux work is specifically mentioned because it is clearly

original and offers promise in a large number of directions. It is difficult to avoid the conclusion, however, that most process research of this kind in education, as in psychotherapy, is fruitful at neither the theoretical nor the applied level.

2. The second kind of process research involves the investigation of causal claims ("dynamic hypotheses") about the process. Here we are interested in such questions as whether an increase of time spent on class discussions of the goals of a curriculum at the expense of time spent on training drills leads to improved comprehension in (a) algebra, (b) geography, etc. This kind of hypothesis is of course a miniature limited-scope 'new instrument' project. Another kind looks for the answer to such questions as, Is the formation of sub-group allegiance and identification with the teacher facilitated by strong emphasis on pupil-teacher dialogue? The identifying feature of this sub-group of process hypotheses is that the dependent variables are either ones which would not figure amongst the set of criteria we would use in a summative evaluation study (though we might think of them as important because of their bearing on improved teaching techniques) or they are only a sub-group of such a set.

Process hypotheses of this second kind are in general about as difficult to substantiate as any 'outcome' hypothesis, i.e. summative evaluation. Indeed they are sometimes harder to substantiate because they may require identifying the effects of only one of several independent variables that are present, and ordinary matching techniques to take care of the others are extremely hard - though usually not impossible - to apply. The advantage of some summative evaluation is that it is concerned with evaluating the effects of a whole teacher-curriculum package and has no need to identify the specific agent responsible for the overall improvement or deterioration. That advantage lapses when we are concerned to identify the variance due to the curriculum as opposed to the teacher.

3. Formative Evaluation. This kind of research can be called process research, but it is of course simply outcome evaluation at an intermediate stage in the development of the teaching instrument. The distinction between this and the first kind of dynamic hypothesis mentioned above is twofold. There is a distinction of role; the role of formative evaluation is to discover deficiencies and successes in the intermediate versions of a new curriculum; the role of dynamic hypothesis investigation is terminal; it is to provide the answer to an important question about the mechanism of teaching. And there is a distinction in the extent to which it matters whether the criteria used are an adequate analysis of the proper goals of the curriculum. The dynamic hypothesis study has no obligation to this; the formative evaluation does. But the two types of study are not always sharply distinct. They both play an important role in good curriculum research.

Now of course it is true that anybody who does an experiment of any kind at all should at some stage evaluate his results. It is even true that the experiment itself will usually be designed in such a way as to incorporate within itself procedures for evaluation of the results - e.g. by using an 'objectively validated' test, which has a certain kind of built-in comparative evaluation in the scoring key. None of this shows that most research is evaluation research. In particular, even process research is not all evaluation research. That interpretation of data can be described as evaluation of results does not show that the interpretations (and the explanations) are about the merit of a teaching instrument. They may be about the temporal distribution of various elements of the instrument etc. Such points are obvious enough, but a good deal of the comment pro and con evaluation research betokens considerable lack of clarity about its boundaries, whose admitted imprecision is really quite slight.

5. Evaluation versus Estimation of Goal Achievement.

One of the reactions to the threat of evaluation, or perhaps to the use of over-crude evaluative procedures, was the extreme relativization of evaluation research. The slogan became "How well does the course achieve its goals?" instead of "How good is the course?". It is of course obvious that if the goals aren't worth achieving then it is uninteresting how well they are achieved. The success of this kind of relativism in the evaluation field rests entirely upon the premise that judgements of goals are value judgements of a non-objective kind. No doubt some of them are; but this in no way indicates that the field is one in which objectivity is impossible. An American History curriculum, K-14, which consisted in the memorisation of names and dates would be absurd - it could not possibly be said to be a good curriculum, no matter how well it attained its goals. Nor could one which led to absolutely no recall of names and dates.

A 'Modern Math' curriculum for general use which produced high school graduates largely incapable of reliable addition and multiplication would be simply a disgrace, no matter what else it conveyed. This kind of value judgement about goals is not beyond debate, but good arguments to the contrary have not been forthcoming so far. These are value judgements with excellent backing. Nor is their defensibility due to their lack of specificity. Much more precise ones can be given just as excellent backing; a physics curriculum which does not discuss the kinetic theory at any stage would be deficient, no matter how well it achieved whatever goals it had. And so on.

Thus evaluation proper must include, as an equal partner with the measuring of performance against goals, procedures for the evaluation of the goals. That is, if it is to have any reference to goals at all. In the next two sections we will discuss procedures of evaluation that involve reference to goals and procedures which short-circuit such reference. First it should be pointed out that there is a complete difference between maintaining that judgement of goals is part of evaluation, i.e. that we cannot just accept anyone's goals, and maintaining that these goals should be the same for every school, for every school district, for every teacher, for every level, etc. It is entirely appropriate that a school with primarily vocational responsibilities should have somewhat different goals from those of a school producing 95% college-bound graduates. It just does not follow from this that the people who give the course or run the school or design the curriculum can be regarded as in any way immune from criticism in setting up their goals. A great deal of the energy behind the current attempts to reform the school curriculum springs straight out of the belief that the goals have been fundamentally wrong, that life-adjustment has been grossly overweighted etc. To swing in the opposite direction is all too easy, and in no way preferable.

The process of relativization, however, has not only led to over-tolerance for over-restrictive goals, it has also led to incompetent evaluation of the extent to which these are achieved. Whatever one's views about evaluation, it is easy enough to demonstrate that there are very few professionally competent evaluators in the country today. The U.S. Office of Education's plans for Research and Development centres, relatively modest in terms of the need, are probably unfulfillable because of the staffing problem, and the heavily financed evaluation projects already in existence are themselves badly understaffed in the evaluation side, even on the most conservative view of its role. Moreover the staff are themselves very well aware of their limitations, and in-service training projects for them are badly needed. The very idea that every school system, or every teacher, can today be regarded as capable of meaningful evaluation of their own performance is as absurd as the view that every psychotherapist today is capable of evaluating his work with his own patients. Trivially, they can learn something very important from carefully studying their own work; indeed they can identify some good and bad features about it. But if they or someone else need to know the answers to the important questions, whether process or outcome, they need skills and resources which are conspicuous by their absence at the national level.

6. Instrumental versus Consequential Evaluation.

Two basically different approaches to the evaluation of a teaching instrument are possible. If you want to evaluate a tool, an instrument of another kind, say an axe, you might study its head design, the arguments for the weight distribution used, the steel alloy in the head, the grade of hickory in the handle, etc., or you might just study the kind and speed of the cuts it makes. (In either case, the evaluation may be either summative or formative, for these are roles of evaluation not procedures for doing evaluation.)

The first approach involves an appraisal of the instrument itself; in the case of a particular course, this would involve evaluation of the content, goals, grading procedures, teacher attitude, etc. We shall call this kind of approach instrumental evaluation. The second approach proceeds via an examination of the effects of the teaching instrument on the pupil, and these alone. It involves an appraisal of the differences between pre- and post-tests, between experimental group tests and control group tests, &c., on a number of criterial parameters. We can call this consequential evaluation.

Referring to the debates between Christians about the foundations of their faith, adherents of the second approach might be inclined to refer to it as the fundamentalist approach, by comparison with the theological approach of the first alternative. Defenders of the second alternative would support this kind of labelling by arguing that all that really counts are the effects of the course on the pupils and appeal to the evaluation of goals and content is defensible only in so far as are evaluations of these really correlates with consequential evaluations. Since these correlations are largely a priori in our present state of knowledge, the fundamentalist argues, the theologian is too much an armchair evaluator. The 'theologian', on the other hand, is likely to counter by talking about values that do not show up in the outcome study to which the fundamentalist restricts himself, and the importance of these in the overall assessment of teaching instruments; he is likely to exemplify this claim by reference to qualities of a curriculum such as elegance, modernity, integrity, etc., which can best be judged by the academic experts in the fields in question.

The possibility arises that an evaluation involving some weighting of instrumental criteria and some of consequential criteria might be a worthwhile compromise. There are certain kinds of evaluation situation where this will be so, but before any assessment of the correct relative weighting is possible it is necessary to look a little further into the difficulties with the two alternatives. In this section we will look at the basic requirements on an instrumental study, in the next examine a currently important disagreement about two types of consequential study, and in the light of our conclusions there we shall be able to say something about the relative merits of instrumental and consequential evaluations.

To recapitulate, it was maintained in the preceeding section that evaluation in terms of goal-achievement is typically a very poor substitute for good summative evaluation. If we are going to evaluate in a way that brings in goals at all, then we shall typically have some obligation to evaluate the goals. As the fundamentalist reminds us, summative evaluation does not necessarily involve any reference to the goals at all, if we do it his way. Indeed one of the charms of the fundamentalist's case is the lack of charm, indeed the messiness, of an adequate instrumentalist design.

A major difficulty with goal-mediated evaluation, which we shall take as the principal example of an instrumentalist approach, lies in the formulation of the goals. In the first place the espoused goals of a curriculum-maker are often not the implicit goals of his curriculum. Moreover, it is not always the case that this kind of error should be corrected in favor of the espoused goals by revising the curriculum, or in favor of the implicit goals by revising the espoused goals. How do we decide which should receive precedence? Even if we were able to decide this, there is the perennial headache of translating the description of the goals that we get from the curriculum-maker or the curriculum-analyst into testable terms. Many a slip occurs between this cup and that lip.

In addition to this, there is the problem already mentioned, that pressure on a writer to formulate his goals, to keep to them, and to express them in testable terms, may enormously alter his product in ways that are certainly not always desirable. Perhaps the best way of handling this third problem is to give prospective curriculum-builders an intensive course in evaluation techniques and problems prior to their commencing work. Such a course would be topic neutral, and would thereby avoid the problems of criticism of one's own 'baby'. Interaction with a professional evaluator can then be postponed substantially and should also be less anxiety-provoking. Short courses of the kind mentioned should surely be available for subsidized attendance every summer at one or two centers in the country. Ignoring any further consideration of the problem of in-group harmony, and this proposal for improving formative evaluation, we can turn to the main difficulty.

6.1 Practical Suggestions for Goal-Mediated Evaluation.

Any curriculum project has some kind of objectives at the very beginning. Even if these are only put in terms of producing a more interesting, or more up-to-date treatment, there has to be some kind of grounds for dissatisfaction with the present curriculum in order to provide a concept of the project as a worthwhile activity. Usually something rather more specific emerges in the course of planning discussions. For example, the idea of a three-track approach, aimed at various kinds of teacher or student interest may emerge out of a rather explicit discussion of the aims of the project, from which it becomes clear that three equally defensible aims can be formulated which will lead to incompatible requirements on the curriculum. The fact that these aims can be seen as incompatible makes clear that they must have fairly substantial content. Another typical content presupposition refers to coverage; it is recognised from the beginning that at least certain topics should be covered, or if they are not then there must be some compensatory coverage of other topics.

At this early stage a member or members of the project team must be appointed to the task of goal-formulation. Many of the objections to this kind of activity stem from reactions to over-rigid requirements on the way in which goals can be formulated at this stage. Any kind of goal on which the group agrees, or even those which they agree should be considered seriously as a possibility in the developing stage, should be listed at this point, but none of them should be regarded as absolute commitments in any way - simply as reminders. It is not possible to overlook the unfortunate examples of projects in which the creative urge has outdistanced reality restraints; it has to be faced from the beginning that too gross a divergence from a certain minimum coverage is going to make the problem of adoption insuperable. If, on the other hand, the risk of negligible adoptions is tolerable, then the goals of the project should be formulated so as to make this clear. Having market-type goals such as substantial adoption on the list is in no way inappropriate: one can hardly reform education with curricula that never reach the classroom.

As the project develops, three types of activities centering around the formulation of goals should be distinguished and encouraged. In the first place the goals as so far formulated should be regularly re-examined and modified in the light of changes in the actual activities, where it is felt that these changes have led to other, more valuable results. Even if no modification seems appropriate, the re-examination will always serve the useful purpose of reminding the writers of overall goals. Secondly, work should be begun on the construction of a test-question pool. Progress tests will be beginning, and the items in these can be thrown into this pool. The construction of this pool is the construction of the operational version of the goals. Consequently it should be scrutinised at the same time as re-examination of goals occurs. Even though the project is only at the stage of finishing the first unit of a projected ten-unit curriculum, it is entirely appropriate to be formulating questions of the kind that it is proposed to include in the final examination on the final unit, or for that matter, in a follow-up quiz. It is a commonplace that in the light of formulating such questions, the conception of the goals of the course will be altered. It is undesirable to require that substantial time be given to this activity, but it is typically not 'undue influence' to encourage thinking about course goals in terms of "What kind of question would tap this learning achievement in the final examination or in a follow-up test?"

At times the answer to this will rightly be "None at all!", for not all values in a course manifest themselves in the final or later examinations. But where they do not thereby manifest themselves, some indication should be given of the time and manner in which they might be expected to be detectable; as in career choices, adult attitudes, etc.

The third activity that should commence at some intermediate stage is that of getting some external judgement as to the cohesiveness of the alleged goals, the actual content, and the test question pool. There is no need at all for the individual judge at this task to be a professional evaluator, and professional evaluators are frequently extremely bad at this. A good logician, an historian of science, a professional in the subject-matter field, an educational psychologist, or a curriculum expert, may be good at this or again they may not. The necessary skill, a very striking one when located, is not co-extensive with any standard professional requirement. This is an area where appointments should not be made without trial periods. It is worth considering whether the activities of this individual, at least in a trial period, may be best conducted without face-to-face confrontation with the project team. A brief written report may be adequate to indicate the extent of possible useful information from the source at this stage. But at some stage, and the earlier the better, this kind of activity is essential if gross divergences between (a) espoused, (b) implicit, and (c) tested-for goals are to be avoided. Not only can a good analyst prevent sidetracking of the project by runaway creative fervor, misconceptions of its actual achievement, etc. but he can provide a valuable stimulus to new lines of development. Ultimately, the justification of psychotherapy does not lie in the fact that the analyst felt he was doing the patient some good, but in the fact that he was; and the same applies to curricular research.

Supposing that this procedure is followed throughout, we will end up with an oversize question pool which should then be examined for comprehensiveness as well as specificity. That is, one should be prepared to say that any significant desired outcome of the course will show up on the answers to these questions; and that what does show up will (normally) only come from the course. Possession of this pool has various important advantages. In the first and second place, it is an operational encapsulation of the goals of the course, if the various cross-checks on its construction have been adequate, which can be used to give the students an idea of what is expected of them as well as to provide a pool from which the final examinations can be constructed. In the third place it can be used by the curriculum-developer to get an extremely detailed picture of his own success (and the success of the cross-checks on pool construction) by administering a different random sample of questions from this pool to each student in a curriculum-check, instead of administering a given random sample to every student as justice requires in a final examination.[1]

What has been described is the bare bones of an adequate mediated evaluation. Now we have made some reference to content characteristics as one of the types of goal, because it is frequently the case that a particular curriculum group argues that one of the merits of its output is its superiority as a representation of contemporary advanced thinking about the subject. The natural way to test this is to have the course read through by some highly qualified experts in the field. It is obvious that special difficulties arise over this procedure. For the most that we can learn from this is that the course does not contain any lies, any distortions of the best contemporary views, or gross deficiencies with respect to them. There remains the question, as the fundamentalist would be the first to point out, of the extent to which the material is being communicated. Even a course with gross oversimplifications, professionally repugnant though it may be to the academic expert, may be getting across a better idea of the truth than its highbrow competitor. The amount of transferred material we infer from the elaborate apparatus of the final test, follow-ups, attitude inventories etc., some details of which are elaborated in a later section. The real advantage of the preceding methodology is to provide a means for making it possible to convert a set of results on the tests into an absolute evaluation, by making reasonably sure that the tests test the goals, one of which may be professional modernity, which may be partly judged by expert reports on the text material, in so far as the tests show this to be transferred fairly uniformly.

---

[1] See Cronbach, ibid. p.242.

A number of further refinements on the above outline are extremely desirable, and in any serious study necessary. Essentially, we need to know about the success of three connected matching problems; first, the match between goals and course content, second, the match between goals and examination content, and third, the match between course content and examination content. Technically we only need to determine two of these in order to be able to evaluate the third; but in fact there are great advantages in attempting to get an estimate of each independently, in order to reduce the error range. We have talked as if one person or group might make each of these matching estimates. It is clearly most desirable that they should all be done independently, and in fact duplicated by independent workers. Only in this way are likely to be able to track down the real source of disappointing results. Even the P.S.S.C. study, which has been as thoroughly tested as most recent curriculum projects, has nowhere approached the desirable level of analysis indicated here.

In general, of course, the most difficult problem in tests and measurement theory is the problem of construct validity, and the present problem is essentially an exercise in construct validity. The problem can be ignored, but only by someone who is prepared to accept immediately the consequence that their supposed goals cannot be regarded as met by the course, or that their examinations do not test what the course teaches, or that the examinations do not test the values/materials that are supposed to be imparted by the course. There are, in practice, many ways in which one can implement the need for comparisons here described; the use of Q-sorts and R-sorts, matching and projective tests for the analysts etc. In one way or another the job has to be done - if we are going to do a mediated evaluation.

6.2 The Possibility of Bypassing Goal Evaluation.

The pure consequentialist, the 'fundamentalist', tends to watch the intricacies of this kind of experimental design with glee, for he believes that the whole idea of bringing in goal- or content-assessment is not only an irrelevant but an extremely unreliable procedure for doing the job of course evaluation. In his view it isn't very important to examine what a teacher says he is doing, or what the students say he is doing (or they are learning), or even what the teacher says in class; the only important data is what the student says (does, believes, etc.) at the end of the course that he wouldn't have said at the beginning (or, to be more precise, would not have said at the end if he had not taken this course). In short, says the fundamentalist, let's see what the course does, and let's not bother with the question of whether it had good intentions.

But the fundamentalist has difficulties of his own. He cannot avoid the construct validity issue entirely, that is, he cannot avoid the enormous difficulties involved in correctly describing at a useful level of generality what the student has learned. It is easy enough to give the exact results of the testing in terms of the percentage of the students who gave certain answers to each specific question: but what we need to know is whether we can say, in the light of their answers, that they have a better understanding of the elements of astronomy, or the chemical-bond approach to chemistry, or the ecological approach to biology. And it is a long way from data about answers to questions, to that kind of conclusion. It is not necessary for the route to lie through a discussion of goals - the fundamentalist is quite right about this. But if it does not lie through a discussion of goals, then we shall not have available the data that we need (a) to distinguish between importantly different explanations of success or failure, (b) to give reasons for using the new text or curriculum to those whose explicit aim is the provision of better understanding of the chemical-bond approach. For example, if we attempt a fundamentalist approach to evaluating a curriculum, and discover that the material retained and regurgitated by the student is regarded as grossly inadequate by the subject-matter specialists, we have no idea whether this is due to an inadequacy in the goals of the curriculum-makers, or to imperfections in their curriculum with respect to these goals, or to deficiencies in their examinations with respect to either of the preceding. And thus we cannot institute a remedial program - our only recourse is to start all over. Fundamentalism can be a costly simplification.

Suppose that we follow a fundamentalist approach and have the students' performance at the end of the course, and only this, rated by an external judge. Who do we pick for a judge? The answer to that question will apparently reveal a commitment on our own part to certain goals. The evaluator will have to relate the students' performance to some criterion, whether it is his conception of an adequate professional comprehension, or what he thinks it is reasonable to expect a tenth-grader to understand, or what somebody should understand who will not continue to college etc. The fundamentalist is right in saying that we can dispense with any discussion of goals and still discover exactly what students have learnt, and right to believe that the latter is the most important variable; but he is mistaken if he supposes that we can in general give the kind of description of what is learnt that is valuable for our purposes without any reference to goals. At some stage, someone is going to have to decide what counts as adequate comprehension for students at a particular level, for a particular subject, and then apply this decision to the non-evaluative descriptions of what the students have learnt, in order to come up with the overall evaluation. At this stage of the debate between the supporter of fundamental and mediated evaluation, the latter would seem to be having the best of it, particularly since there are certain goals that can be (a) incorporated into a course (b) judged as worth incorporating by subject-matter authorities, but which (c) are not such as to show up in an appropriate kind of final examination at the end of a particular year. But the issue is not so one-sided; the fundamentalist is performing an invaluable service in reminding us of the potential irresponsibility of producing "elegant", "up-to-date", "rigorous" curricula if these qualities are not coming through to the students. We can take them on faith insofar as they are recognised as being the frosting on the cake; but we can't take the food-value of the cake on faith. The amount of goal analysis that is absolutely necessary in order to provide a summative evaluator with the basis for a value-judgement about the curriculum is very, very little compared with the amount that a thorough mediated evaluation involves. It is, after all, more important to put time and money into deciding whether what the student has acquired is a misconception of the nature of electric current than whether the curriculum-writer has inadvertently incorporated some minor misconception of it into his curriculum. The real alternative which the fundamentalist presents is the use of an academic evaluator who is asked to look at the exact performance of the class on each question and at the pool from which the questions were drawn, and from these directly assess the adequacy of the course to the subject as he sees it. Such an evaluator makes his evaluations by reference to a criterion of *merit*, but this is not the same as saying that he presupposes something about the goals of the course. He may think it *unlikely* that a course should be much good (in terms of his criteria) unless it had his criteria as explicit or implicit goals, but he is not at all committed to such a claim. He *is* committed to the view that certain goals are or would be *desirable*, but they may be goals that no course-maker has ever employed. So there is no contradiction in the fundamentalist view that we do not have to have or evaluate goals in order to evaluate a course, and he is certainly right in believing that bringing them in makes for an invalid or very complex design. Yet *sometimes* we have good practical reasons for doing so.

In conclusion, it should be clear that a strong case can be made for incorporating the procedure described above as part of any good curriculum project, whether or not we use mediated evaluation. Doing so will of course help to make a good mediated evaluation feasible. In addition, however, it should be noted that an equally thorough analysis is required of the *results* of the students' tests, and not only of the course content. It is not at all adequate to go to great trouble setting up and cross-analyzing the goals, tests, and content of a curriculum and then attempt to use a percentage figure as the indication of goal achievement (unless the figure happens to be pretty close to 100% or 0%). This kind of gross approach is no longer acceptable as evaluation. The performance of the students on the final tests, as upon the tests at intermediate stages, must be analysed in order to determine the exact locations of shortcomings of comprehension, shortages of essential facts, lack of practice in basic skills etc. Percentages are not very important. It is the nature of the mistakes that is important in evaluating the curriculum, and in rewriting it. The technique of the large question pool provides us with an extremely refined instrument for locating deficiencies in the curriculum. But this instrument can only be exploited fully if evaluation of the results is itself handled in a refined way, with the same use of independent judges, putative generalizations about the nature of the mistakes being cross-matched etc. It should be clear that the task of proper evaluation of curriculum materials is an enormous one. The use of essay type questions, the development and use of novel instruments, the use of reports by laboratory-work supervisors, the colligation of all this material into specially developed rating schemata, all of this is expensive and time-consuming. In a later section some consideration of the consequences of this picture of the scale of evaluation activities will be undertaken. At this point, however, it becomes necessary to look into a further and final divergence of approaches.

7. Comparative versus Non-Comparative Evaluation.

The history of attempts to evaluate recent curricular reforms has been remarkably uniform; comparing students taking the old curriculum with students taking the new one, it usually appears that students using the new curriculum do rather better on the examinations designed for that curriculum and rather worse on those designed for the old curriculum, while students using the old curriculum perform in the opposite way. Certainly, there is a remarkable absence of striking improvements on the same criteria (with some exceptions, of which the most notable is the performance of students in studies of good programmed texts). Initially, one's tendency is to feel that the mountain has laboured and brought forth a mouse - and that it is a positive mouse and not a negative one entirely depends upon the evaluation of the goals (and hence of the examinations). A legitimate reaction is to look very seriously into the question of whether one should not weight judgement of content and goals by subject-matter experts as being a great deal more important than small differences in level of performance on these criteria. If we do this, then relatively minor improvements in performance, on the right goals, become very valuable, and in these terms the new curriculum looks considerably better. Whether this alteration of weights can really be justified is a matter that needs very serious investigation; it requires a rather careful analysis of the real importance to the understanding and use of contemporary physics, as it is seen by physicists, of the missing elements in the old curriculum. It is all too tempting to feel that the re-weighting must be correct because one is so thoroughly convinced that the new course is better.

Another legitimate reaction is to wonder whether the examinations are really doing a good job testing the depth of understanding of the people trained on the new curriculum. Here the use of the over-size question pool becomes extremely important. Cronbach speaks of a 700 item pool (without flinching!) and this is the kind of order of magnitude that makes sense in terms of an exhaustive evaluation of a one or two-year curriculum. Whether this reaction reveals a legitimate basis for increasing the measure of importance of the difference between the students groups using the new and old curricula will depend upon the results of further tests using a thoroughly justified and much enlarged pool. Again, it is going to be tempting to put items into the pool that reflect mere differences of terminology in the new course, for example. Of course if the pool consists mainly of questions of that kind, the new curriculum-students will do much better. But their superiority will be entirely illusory. Cronbach warns us against this risk of course-dependent terminology, although he goes too far in segregating understanding from terminology (this point is taken up below). So here, too, we must be certain to use external evaluators in the construction or assessment of the question pool.

Other illegitimate reactions run from the charming suggestion that such results simply demonstrate the weaknesses of evaluation techniques, to a more interesting suggestion implicit in Cronbach's paper. He says:

> "Since group comparisons give equivocal results, I believe that a formal study should be designed primarily to determine the post-course performance of a well-described group, with respect to many important objectives and side-effects." [1]

Notice that Cronbach is not producing an alternative to mediated evaluation, in the way that the fundamentalist is; Cronbach explicitly includes reference to pre-evaluated objectives i.e. important objectives. He is apparently about to suggest a way in which we can avoid comparison, not with goals or objectives, but with another group, supposedly matched on relevant variables. What is this non-comparative alternative procedure for evaluation? He continues;

> "Ours is a problem like that of the engineer examining a new automobile. He can set himself the task of defining its performance characteristics and its dependability. It would be merely distracting to put his question in the form: 'Is this car better or worse than the competing brand?'"

It is perfectly true that the automobile engineer might just be interested in the question of the performance and dependability of the new automobile.

---

[1] This and the succeeding quotation are from p.238.

But no automobile engineer ever has had this pure interest, and no automobile engineer ever will have it. Objectives do not become "important" except in a practical context. Unrealistic objectives are not important. The very measures of the performance and dependability of an automobile and our interest in them spring entirely from knowledge of what has and has not so far proved possible, or possible within a certain price-class, or possible with certain interior space, or with a certain overall weight etc. The same applies in the field of curriculum development. We already have curricula aimed at almost every subject known to man, and there isn't any real interest in producing curricula for curricula's sake; to the extent that there is, there isn't any interest in evaluating them. We are interested in curricula because they may prove to be better than what we now have, in some important way. We may assign someone the task of rating a curriculum on certain variables, without asking them simultaneously to look up the performance of other curricula on these variables. But when we come to evaluate the curriculum, as opposed to merely describing its performance, then we inevitably confront the question of its superiority or inferiority to the competition. To say it's a valuable contribution, a desirable or useful course, even to say - in the usual context - that it's very good, is to imply relative merit. Indeed the very scales we use to measure its performance are often percentile scales or others with a built-in comparison.

There are even important reasons for putting the question in its comparative form immediately. Comparative evaluations are often very much easier than non-comparative evaluations, because we can often use tests which yield differences instead of having to find an absolute scale and then eventually compare the absolute scores. If we are discussing chess-teaching courses, for example, we might match two groups for background variables, and then let them play eachother off in a round-robin tournament. Attempting to devise a measure of skill of an absolute kind would be a nightmare, but we might easily get consistent and significant differences from this kind of comparative evaluation. Cronbach is not making the fundamentalist's mistake of thinking that one can avoid reference to goals; but he is proposing a kind of neo-fundamentalism which underestimates the implicit comparative element in any field of social engineering including automobile assessment and curriculum evaluation.

Cronbach continues in this paragraph with a line of thought about which there can be no disagreement at all; he points out that in any cases of comparisons between importantly different teaching instruments, no real understanding is gained from the discovery that one of them is notably superior to the other: "No one knows which of the ingredients is responsible for the advantages". But understanding is not our only goal in evaluation. We are also interested in questions of support, encouragement, adoption, reward, refinement etc. And these extremely important questions can be given a useful though in some cases not a complete answer by the mere discovery of superiority. It will be recalled that in an earlier section we argued that the fundamentalist position suffers by comparison with the supporter of mediated evaluation in that his results will not include the data we need in order to locate sources of difficulty etc. Here Cronbach is arguing that his non-comparative approach will be more likely to give us the data we need for future improvement. But this is not in any way an advantage of the non-comparative method as such. It is simply an advantage of methods in which more variables are examined in more detail. If we want to pin down the exact reasons for differences between programs, it is quite true that "small-scale, well-controlled studies can profitably be used to compare alternative versions of the same course" whereas the large-scale overall comparison will not be so valuable.

But that in no way bears on the question whether we have any alternative to comparative studies at some point in our evaluation procedures. In short this is simply an argument that one needs more control groups, and possibly more short-run studies in order to get explanations, than one needs for overall evaluation. It is incontestible; but it does not show that for the purposes of overall evaluation we can or should avoid overall comparison.

One might put the point in terms of the following analogy; in the history of automobile engine design there have been a number of occasions when a designer has turned out an engine that was quite inexplicably superior to the competition - the Kettering GM V8, the Coventry Climax and the Weslake Ford Conversions are well-known examples. At least thirty variables are involved in the design of any new engine and for a long time after these had been in production nobody, including the designer, knew which of them had been mainly responsible for the improvement. But the decision to go into production, the decision to put the further research into the engine that led to finding out what made it great, indeed the beginning of a new era in engine design, required only the comparative evaluation. You set a great team to work and you hope they are going to strike gold; after that you stake your claim and start trying to work out the configuration of the lode. This is the way we have to work in any field where there are too many variables and too little time.

7.1 Practical Procedures in Control-Group Evaluation.

It is a major theme of Cronbach's that control group comparisons in the curriculum game are not really very suitable. We have just seen how his attempt to provide a positive alternative does not develop into a realistic answer in the context of typical evaluation enquiries. It is now appropriate for us to attempt to meet some of the objections that he raises to the control group method if we are to recommend that this be left in possession of the field.

The suggestion that gross comparisons yield only small differences must be met, as indicated above (and as he recommends elsewhere), by increasing the power of the microscope - that is, by increasing the number of items that are being tested, increasing the size of the group in order to get more reliability into differences that do appear, and developing new and more appropriate tests where they seem to be the weakness. But once all this has been said, the fact remains that it is probably the case that we shall have to proceed in terms of rather small differences; that producing large differences will probably require a multiple-push approach, attacking not only the curriculum but the student-grouping procedures, the teacher presentation, the classroom time allocation, and above all the long-term effects that an attack on every subject in the school curriculum will eventually produce for us, a general increase in the level of interest and preparedness. This is not too depressing a prospect, and it is exactly paralleled in that other field in which we attempt to change human behaviour by applying pressure on the subjects for a few hours a week over a period of one or several years - the field of psychotherapy. We are perhaps too used to the discovery of miracle drugs or technological breakthroughs in the aero-space field to realise how atypical this is of progress in general. In the automobile engineering field, to stay with Cronbach's example, it is well known that developing a good established design yields better results than introducing a radical and promising new design in about twice as many cases as engineers under forty are willing to believe. What one may reasonably expect in the way of progress is not great leaps and bounds, but steady improvement. Cronbach says that "formally designed experiments pitting one course against another are rarely definitive enough to justify their cost" but this is just the kind of knowledge that we need to have. If we have really satisfied ourselves that we are using good tests of every criterion variable that matters (and of course we usually have a number in the follow-up series that make this kind of conclusion impossible for a few years) then to discover parity of performance is to have discovered something extremely informative.

Of course, we cannot conclude from this that all the techniques involved in the new curriculum are worthless improvements. We must go on to make the micro-studies that will enable us to see whether any one of them is worthwhile. But we have discovered something very significant. Doing the gross comparative study is going to cost the same whatever kind of results we get, and we have to do it. The real question is whether we stop after discovering an insignificant difference, or continue in the direction of further analytical research, as Cronbach enthusiastically recommends (or incorporate the refinements in the original design which will give us the further answer). The impact of his article is to suggest the unimportance of the control group study, whereas the case can only be made for its inadequacy as a total approach to the whole of curriculum research.[1] We shall here try to provide some practical suggestions for experimental designs that will yield more than a gross comparative evaluation.

A significant part of the reason for Cronbach's despair over comparative studies lies in his recognition that we are unable to arrange for double-blind conditions. "In an educational experiment it is difficult to keep people unaware that they are an experimental group. And it is quite impossible to neutralise the biases of the teacher as those of the doctor are neutralised in the double-blind design. It is thus never certain whether any observed advantage is attributable to the educational innovation as such, or to the greater energy that teachers and students put forth when a method is fresh and 'experimental'." (p.237) But Cronbach despairs too quickly. The analogy in the medical field is not with drug studies, where we are fortunate enough to be able to achieve double-blind conditions, but with psychotherapy studies where the therapist is obviously endowed with enthusiasm for his treatment, and the patient cannot be kept in ignorance of whether he is getting some kind of treatment. If Cronbach's reasoning is correct, it would not be possible to design an adequate psychotherapy outcome study. But it *is* possible to design such a study, and the way to do it - as far as this point goes - is to make comparisons between a number of therapy groups, in each of which the therapist is enthusiastic, but in each of which the method of therapy is radically different.[1] As far as possible, one should employ forms of therapy in which directly incompatible procedures are adopted. There are already a number on the market which meet this condition in several dimensions, and it is easy enough to develop pseudo-therapies which would be promising enough to be enthusiasm-generating for some practitioners (e.g. newly graduated internists inducted into the experimental program for a short period). The method of differences plus the method of concomitant variations will then enable us to draw straightforward conclusions about whether enthusiasm is the (or a) major factor in therapeutic success, even though double-blind conditions are unobtainable. Nor is this the only kind of design which can do this; many other devices are available, and ingenious experimenters will doubtless think of still more, to enable us to handle this kind of research problem. There is nothing indispensable about the double-blind study.

---

[1] Yet he does agree with the necessity for making the practical decisions between textbooks and similar instructional materials (p.232), for which nothing less than a valid comparative study is adequate.

---

[1] Other difficulties are discussed in more detail in "The Experimental Investigation of Psychoanalysis" in *Psychoanalysis, Scientific Method and Philosophy* ed. S.Hook, NYU Press 1959.

Now the curriculum field is even more difficult than the psychotherapy field, because, although the average intelligent patient will accept almost any nonsense as a form of therapy, thanks to the witchdoctor tradition, need to be healed etc. it is not equally easy to convince students and teachers that they are receiving and giving instruction in geometry unless what is going on really is a kind of geometry that makes some sense. And if it is, then interpretation of one of the possible outcomes is ambiguous, i.e. if the two groups do about as well, it may be because enthusiasm does the trick, or because the content is about equally valuable. However, comparative evaluation is still well worthwhile, because if we find a very marked difference between the groups, and are able to arrange for enthusiasm on the part of the teachers and students in both cases, we may be reasonably sure that the difference is due to the curriculum content.

Now it is not particularly difficult to arrange for the enthusiasm matching. Corresponding to the cut-rate therapy comparison group, where the therapy procedures are brainstormed up in a day or two of wild free-associating by the experimenters assisted by a lot of beer and some guilt-ridden eclectic therapists, we set up some cut-rate new curricula in the following way. First, we get two bright graduate students or instructors in (let us suppose) economics, give them a vocabulary list for the tenth grade and pay them $500 a chapter for a translation of Samuelson's text into tenth grade language, encouraging them to use their originality in introducing the new ideas. They could probably handle the whole text in a summer and so for a few thousand dollars, including costs of reproducing pilot materials, we have something we could set up against one of the fancier economics curriculum, based on a great deal of high-priced help and laborious field-testing. Then we find a couple of really bright college juniors, majoring in economics, from different colleges, and give them a summer to turn their recent experience at the receiving end of introductory economics courses, and their current direct acquaintance with the problems of concept grasping in the field, into a curriculum outline, not centered around any particular text, filled in as much as possible, of a brief introduction to economics for the tenth-grade. And for a third comparison group we locate some enthusiasts for one of the current secondary school texts in 'economics' and have them work on a revision of it with the author(s) and in the light of some sampling of their colleagues reactions to the text in class use.

Preferably using the curriculum-makers as teachers (pace State Departments of Education) we then turn them loose on matched comparison groups, in school systems geographically well removed from the ones where we are running the tests on the high-priced spread. We might toss in a little incentive payment in the way of a pre-announced bonus for these groups if they don't get significantly out-scored by the super-curriculum. Now then, if we still get a big difference in favor of the super-curriculum, we have good reason for thinking that we have taken care of the enthusiasm variable. Moreover we don't have to pull this stunt with every kind of subject matter, since enthusiasm is presumably reasonably (though definitely not entirely) constant in its effects across subject matter. At any rate, a modest sampling should suffice to check this.

One of the nice things about this kind of comparative study is that even if we get the ambiguous negligible-difference result, which will leave us in doubt as to whether a common enthusiasm is responsible for the result, or whether a roughly comparable job in teaching economics is being done by all the curricula, we get a nice economic bonus. If we can whomp up new curricula on a shoestring which are going to produce pretty good results, so much the better: we can do it often and thereby keep up the supply of enthusiasm-stoked project directors, and increase the chances of hitting on some really new big-jackpot approach from a Newton of curriculum reform.

Moreover, still on a shoestring, we can settle the question of enthusiasm fairly quickly even in the event of a tie between the various curricula, by dumping them into the lap of some antagonistic and some neutral teachers to use during the next school term, while on the other hand arranging for the original curriculum-makers to lovingly train a small group of highly selected and innovation-inclined teachers to do the same job. Comparisons between the performance of these two new groups and that of the old ones should enable us to pin down the role of enthusiasm rather precisely, and in addition the no-doubt variable immunity of the various curricula to lack of enthusiasm.

A few obvious elaborations of the above procedures, including an opportunity for the novice curriculum-makers to spend a couple of afternoons on field-testing early sections of their new curriculum, to give them some 'feel' for the speed at which students at this level can grasp new concepts, the use of some care in selecting teachers for their conservatism or lethargy, using self-ratings plus peer-ratings plus attitude inventories, would immediately suggest themselves in the case of an actual study.

The enthusiasm 'difficulty' here is simply an example of what we might call disturbance effects, of which the placebo effect in medicine and the Hawthorne effect in industrial and social psychology are well-known instances. In each case we are interested in finding out the effects of a certain factor, but we cannot introduce the factor into the experimental situation without producing a disturbance which may itself be responsible for the observed changes. In the drug field, the disturbance consists in the act of giving the patient something which he considers to be a drug, something which does not ordinarily happen to him, and consequently may produce effects of its own, quite apart from the effects of the drug. In the Hawthorne effect, the disturbance is the disruption of e.g. conditions of work which may suggest to the worker that he is the subject of special study and interest, and this may lead to improved output, not the physical changes in the environment that are the intended parameters under study.

The cases so far mentioned are all ones where the beliefs of the subjects are the mediating factor between the disturbance and the ambiguous effects. This is characteristic in the field of psychology, but - as the term 'disturbance effect' indicates - the situation is not essentially different from that occurring in technological research where we face problems such as the absorption of heat by a thermometer which thereby alters the temperature that it is supposedly measuring. That is, some of the effect observed (which is here the eventual length of the mercury column) is due to the fact that in order to get the effect at all you have to introduce another physical object into proximity with the measured object, the instrument itself having a certain heat capacity, a factor in whose influence you are not interested though in order to find out what you do need to know you eventually have to make an estimate of the magnitude of the disturbance effect. The ingenious double-blind design is only appropriate in certain circumstances, and is only one of many ways in which we can compensate for disturbance effects. It therefore seems unduly pessimistic of Cronbach to suppose that the impossibility of a double-blind in curriculum work is fatal to comparative evaluation. Indeed, when he comes to discuss follow-up studies, he agrees that comparative work is essential (p.240). The conclusion seems obligatory that comparative evaluation, whether mediated or fundamental is the method of choice for evaluation problems.

8. Comparative Evaluation - The Criteria of Educational Achievement.

We may now turn to the problem of specifying in more detail the criteria which should be used in evaluating a teaching instrument. We may retain Bloom's[1] convenient trichotomy of cognitive, affective and motor variables, though we shall often refer to the last two as motivational and physical or non-mental variables, but under the first two of these we shall propose a rather different structure, especially under the knowledge and understanding subdivisions of the cognitive field. It should be stressed at the beginning that the word "knowledge" can be used to cover understanding (or comprehension) and even affective conditions, but that it is here used in the sense in which it can be contrasted with comprehension and experience or valuation, i.e. in the sense in which we think of it as 'mere knowledge'. Comprehension or understanding, by contrast, refers to a psychological state involving knowledge, not of one item, nor of several separate items, but of a field. A field or structure is a set of items related in a systematic way, knowledge of the field involving knowledge not only of the items but of their relations. A field is often open-ended in the sense of having potential reference or applicability to an indefinite number of future examples. In this latter case, comprehension involves the capacity to apply to these novel cases the appropriate rule, rubric or concept. A field may be a field of abstract or practical knowledge, of thought or of skills.

With respect to any field of knowledge we can distinguish between a relatively abstract or conceptual description of the parameters (which are to occupy the role of dependent variables in our study) and a manifestation description, the latter being the next stage towards the specification of the particular tests to be used, which we may call the operational description. It is appropriate to describe the criteria at all three levels, although we finally apply only the third, just as it is appropriate to give the steps of a difficult proof in mathematics, because it shows us the reasons for adopting the particular final step proposed.

---

[1] Taxonomy of Educational Objectives B.S. Bloom editor and others, Vols. I, II, and III (forthcoming).

I have followed the usual practice here in listing positive goals (with the possible exception of the example in 5) but a word of caution is in order. Although most negatively desired effects are the absence of positively desired effects, this is not always true, and more generally it is often true that one may wish to alter the weighting of a variable when it drops below a certain level. For example, we may not be worried if we get no change on socialization with a course that is working well in the cognitive domain, and we may give small credit for large gains in this dimension. But if it produces a marked rise in sociopathic behaviour we may regard this as fatal. Similarly with respect to forgetting or rejection of material in other subject areas etc. Another example is discussed below.

A word about originality; this may be manifested in a problem-solving skill, an artistic skill (which combines motor and perceptual and perhaps verbal skills) and in many other ways. It does not seem desirable to make it a separate criterion.

In general, I have tried to reduce the acknowledged overlap amongst the factors identified in Bloom's analysis, and am prepared to pay a price for this desideratum, if such a price must be paid. There are many reasons for avoiding overlap, of which one of the more important and perhaps less obvious ones is that when the comparative weighting of criteria is undertaken for a given subject, independence greatly simplifies the process, since a straight weighting by merit will overweight the hidden loading factors.

There is still a tendency in the literature to regard factual recall and knowledge of terminology with disdain. But for many subjects, a very substantial score on that dimension is an absolutely necessary condition for adequate performance. This is not the same as saying that a sufficiently high score on that scale will compensate for lack of understanding, even where we use a single index compounded from the weighted scores. There are other subjects, especially mathematics and physics, where knowing the terminology requires and hence guarantees a very deep understanding and terminology-free tests are just bad tests. (cf Cronbach p.245)

8.1 Conceptual Description of Educational Objectives.

1. Knowledge, of
   - A. Items of specific information including definitions of terms in the field.
   - B. Sequences or patterns of items of information including rules, procedures or classifications for handling or evaluating items of information (we are here talking about mere knowledge of the rule and not the capacity to apply it).
2. Comprehension or Understanding, of
   - A. Internal relationships in the field,[1] i.e. the way in which some of the knowledge claims are consequences of others and imply yet others, the way in which the terminology applies within the field; in short what might be called understanding of the intrafield syntax of the field or sub-field.
   - B. Inter-field relations, i.e. relations between the knowledge

---

[1] Typically, 'the field' should be construed more widely than 'the subject' since we are very interested in transfer from one subject to related ones and rate a course better to the extent it facilitates this. In rating applications, we can range very far e.g. from a course on psychology to reactions to commercials showing white-coated men.

claims in this field and those in other fields; what we might call the interfield syntax.

C. Application of the field or the rules, procedures and concepts of the field to appropriate examples, where the field is one that has such applications; this might be called the semantics of the field.

3. Motivation. (Attitude/values/affect)

A. Attitudes towards the course, e.g. acoustics.

B. Attitudes towards the subject, e.g. physics.

C. Attitudes towards the field, e.g. science.

D. Attitudes towards material to which the field is relevant, e.g. increased skepticism about usual advertising claims about 'high fidelity' from miniature radios (connection with 2C above).

E. Attitudes towards learning, reading, discussing it, enquiring in general etc.

F. Attitudes towards the school.

G. Attitudes towards teaching as a career, teacher status etc.

H. Attitudes towards (feelings about etc.) the teacher as a person.

I. Attitude towards class-mates, attitude towards society (obvious further sub-headings).

J. Attitude towards self, e.g. increase of realistic self-appraisal (which also involves cognitive domain).

4. Non-Mental Abilities.

A. Perceptual.

B. Psycho-motor.

C. Motor, including e.g. some sculpting skills.

D. Social skills.

5. Non-Educational Variables.

There are a number of non-educational goals, usually implicit, which are served by many courses and even new courses, and some of them are even justifiable in special circumstances as e.g. in a prison. The crudest example is the 'keeps 'em out of mischief' view of schooling. It is realistic to remember that these criteria may be quite important to parents and teachers even if not to children.

8.2 Manifestation Dimensions of Criterial Variables.

1. Knowledge (in the sense described above) is evinced by

A. Recital skills.

B. Discrimination skills.

C. Completion skills.

D. Labelling skills.

Note: Where actual performance changes are not discernible, there may still be some subliminal capacity, manifesting itself in a reduction in re-learning or in future learning to criterion.

2. Comprehension is manifested on some of the above types of performance and also on

A. Analysing skills, including laboratory analysis skills, other than motor, as well as the verbal analytic skills, exhibited in criticism, précis, etc.

B. Synthesising skills.

C. Evaluation skills.

D. Problem-solving skills (speed-dependent and speed-independent).

3. Attitude manifestations usually involve simultaneous demonstration of some cognitive acquisition. The kinds of instrument involved

are questionnaires, projective tests, Q-sorts, experimental choice situations, and normal lifetime choice situations (choice of college major, career, spouse, friends, etc.). Each of the attitudes mentioned is characteristically identifiable on a passive to active dimension (related to the distinctions expounded on in Bloom, but disregarding extent of systematisation of value system which can be treated under meta-cognitive skills).

4. The Non-Mental Abilities are all exhibited in performances of various kinds, which again can be either artificially elicited or extracted from life-history. A typical example is the capacity to speak in an organised way in front of an audience, to criticise a point of view not previously heard in an effective way etc. (this again connects with the ability conceptually described under 2C).

8.3 Follow-Up.

The time dimension is a crucial element in the analysis of performance and one that deserves an extensive independent investigation. Retention, recall, depth of understanding, extent of imprinting, can all be tested by re-applications of the tests or observations used to determine the instantaneous peak performance, on the dimensions indicated above. However, some follow-up criteria are not repetitions of earlier tests or observations; eventual choice of career, longevity of marriage, extent of adult social service, career success, are relevant and important variables which require case history investigation. But changes of habits and character are often not separate variables, being simply long-term changes on cognitive and affective scales.

8.4 Secondary Effects.

A serious deficiency of previous studies of new curricula has been a failure to adequately sample the teacher population. When perfecting a teaching instrument, we cannot justify generalising from pilot studies unless not only the students but the teachers are fair samples of the intended population. This is one reason for the importance of the studies of interference effects. Just as generalising has been based upon inadequate analysis of the teacher sample, so criterion discussions have not paid sufficient attention to teacher benefits. It is quite wrong to evaluate a teaching instrument without consideration of the effects on the operator as well as on the subjects. In an obvious sense, the operator is one of the subjects.

We may divide secondary effects (i.e. those on others than the students taking the course) into two categories. Direct secondary effects are those arising from direct exposure to the material, and only the teachers and teachers' helpers can be affected in this way. Indirect secondary effects are those effects mediated by someone who exhibits the primary effects.

8.41 Effects on the Teacher.

A new curriculum may have very desirable effects on up-dating a teacher's knowledge, with subsequent pay-off in various ways including the better education of other classes at a later stage, in which he/she may be using either the old curriculum or the new one. Similarly, it may have very bad effects on the teacher, perhaps through induction of fatigue, or failing to leave her any feeling of status or significant role in the classroom etc.

It is easy to itemise a number of such considerations, and we really need a minor study of the taxonomy of these secondary effects under each of their several headings. In particular, what I have called the interference effects e.g. those due to enthusiasm, can be directly valued, as I think they should be - if we include secondary effects in the criteria. Very often the introduction of new curriculum material is tied to teacher in-service training institutes or special in-service training interviews. These of course have effects on the teacher herself with respect to status, self-concept, pay, interests etc, and indirectly on later students. Many of these effects on the teacher show up in her other activities; at the college level there will normally be some serious reduction of research time resulting from association with an experimental curriculum, and this may have results for promotion expectations in either the positive or the negative direction, depending upon departmental policy. All of these results are effects of the new curriculum, at least for a long time, and in certain circumstances they may be sufficiently important to count rather heavily against other advantages. Involvement with curricula of a highly controversial kind may have such strongly damaging secondary effects as to raise questions as to whether it is proper to refer to it as a good curriculum for schools in the social context in which these secondary effects are so bad.

8.42 Indirect Effects on Teacher's Colleagues.

Indirect secondary effects are the effects on people other than those directly exposed to the curriculum: once again they may be highly significant. A simple example of an indirect secondary effect involves other members of the staff who may be called upon to teach less attractive courses, or more courses, or whose load may be reduced for reasons of parity, or who may be stimulated by discussions with the experimental group teachers, etc. In many cases, effects of this kind will vary widely from situation to situation, and such effects may then be less appropriately thought of as effects of the curriculum (although even the primary effects of this, i.e. the effects on the students will vary widely geographically and temporally) but there will sometimes be constancies in these effects which will require recognition as characteristic effects of this particular teaching instrument. This will of course be noticeable in the case of controversial experimental courses, but it will also be significant where the course bears on problems of school administration, relation of the subject to other subjects, and so on. Good evaluation requires some attempt to identify effects of this kind.

8.43 Indirect Effects on Other Students.

Another indirect secondary effect, only partly covered in the effect of the curriculum on the teacher, is the effect on other students. Just as a teacher may be improved by exposure to a new curriculum, and this improvement may show up in benefits for students that she has in other classes, or at a later period using the old curriculum etc., so there may be an effect of the curriculum on students not in the experimental class through the intermediary of students who are. Probably more pronounced in a boarding school, the communication between students is still a powerful enough instrument in ordinary circumstances for this to be a significant influence. The students may of course be influenced in other ways; there may be additions to the library as a result of the funds available for the new course that represent values for the other students etc. All of these are educationally significant effects of the course adoption.

8.44 Effects on Administrators.

The college administrators may be affected by new teaching instruments in various ways; their powers of appointment may be curtailed, if the teaching instrument's efficiency will reduce faculty, they may acquire increased prestige (or nuisance) through the use of the school as an experimental laboratory, they may find this leads to more (or less) trouble with the parents, the pay-off through more national scholarships may be a value to them, either intrinsically or incidentally to some other end, etc. Again, it is obvious that in certain special cases this variable will be a very important part of the total set that are affected by the new instrument, and evaluation must include some recognition of this possibility. It is not so much the factors common to the use of novel material, but the course-specific effects that particularly require estimation and almost every new science or social studies course has such effects.

8.45 Effects on Parents.

Effects on the parents are of course well known, but they tend to be regarded as nuisance-generating effects. On the contrary, many such effects should be regarded as part of the adult education program in which this country is remarkably lacking. In some subjects, e.g. Russian, this is unlikely to have a very significant effect, but in the field of problems of democracy, elementary accounting, and literature, this may be a most important effect.

8.46 Effects on the School or College.

Many of these are covered above, particularly under the heading of effects on the administrator, but there are of course some effects that are more readily classified under this heading, such as improvement in facilities, support, spirit, applicants, integration, etc.

8.47 Effects on the Taxpayer.

These are partly considered in the section on costs below, but certain points are worth mentioning. We are using the term taxpayer and not ratepayer here to indicate a reference to the total tax structure, and the most important kinds of effects here are the possibility of very large-scale emulation of a given curriculum reform project, which in toto, especially with evaluation on the scale envisioned here, is likely to add a substantial amount to the overall tax burden. For the unmarried or childless taxpayer, this will be an effect which may with some grounds be considered a social injustice. Insofar as evaluation of a national armament program must be directly tied to questions of fair and unfair tax loads, the same must be applied in any national considerations of very large-scale curriculum reforms.

9. Values and Costs.

9.1 Range of Utility.

No evaluation of a teaching instrument can be considered complete without reference to the range of its applicability and the importance of improvement of education in that range. If we are particularly concerned with the underprivileged groups, then it will be a value of considerable importance if our new teaching instrument is especially well adapted for that group. It may not be very highly generalisable, but that may be offset by the social utility of the effects actually obtained. Similarly, the fact that the instrument is demonstrably usable by teachers with no extra training, sharply increases its short-term utility. Indeed it may be so important as to make it one of the goals of instrument development, for short-run high-yield improvements.

9.2 Moral Considerations.

Considerations of the kind that are normally referred to as moral have a place in the evaluation of new curricula. If the procedures for grading, or treating students in class, although pedagogically effective, are unjust, then we may have grounds for judging the instrument undesirable which are independent of any directly testable consequences. If one conceives of morality as a system of principles founded upon the maximising of extreme long-run social utility, based on an egalitarian axiom, then moral evaluations should show up somewhere else on the criteria given above, as primary or secondary effects. But the time lag before they do so may be so long as to make it appropriate for us to introduce this as a separate category. There are a number of other features of teaching instruments that may be reacted to morally; 'the dehumanising influence of teaching machines' is a description often used by critics who are partly affected by moral considerations; whether misguidedly or not is another question. Curricula stressing the difference in performance on the standardised intelligence tests of negro and white children have been attacked as morally undesirable, and the same has been said of textbooks in which the role of the United States in world history has been viewed somewhat critically. Considerations like this will of course show up on a content-mediated approach to evaluation but they deserve a separate entry because the reaction is not to the truth or insight provided by the program, but to some other consequences of providing what may well be truths or insights, namely the consequences involving the welfare of the society as a whole.

9.3 Costs.

The costing of curriculum adoption is a rather poorly researched affair. Enthusiasts for new curricula tend to overlook a large number of secondary costs that arise, not only in the experimental situation, but in the event of large-scale adoption. Evaluation, particularly of items for purchase from public funds, has a strong committment to examination of the cost situation. Most of the appropriate analysis can be best obtained from an experienced industrial accountant, but it is perhaps worth mentioning here that even when the money has been provided for the salaries of curriculum-makers and field-testers and in-service training institutes there are a number of other costs that are not easily assessed, such as the costs of re-arrangements of curriculum, differential loads on other faculty, diminished availability for supervisory chores of the experimental staff (and in the long run, where the instrument requires more of the teacher's time than the one it replaces, this becomes a permanent cost), the 'costs' of extra demands on student time (presumably at the expense of other courses they might be taking), and of energy drain on the faculty as they acquire the necessary background and skills in the new curriculum, and so on through the list of other indirect effects many of which have cost considerations attached, whether the cost is in dollars or some other valuable.

10. Another kind of Evaluation - 'Explanatory Evaluation'.

Data relevant to the variables outlined in the preceding section are the basic elements for almost all types of evaluation. But sometimes, as was indicated in the first section, evaluation refers to interpretation or explanation in a different sense. While not considering this to be a primary or even a fully proper sense, it is clear from the literature that there is some tendency to extend the term in this direction. It seems to be preferable to distinguish between evaluation, and the attempt to discover an explanation of certain kinds of result, even when both are using the same data. Explanation-hunting is sometimes part of process research and sometimes part of other areas in the field of educational research. When we turn to considerations of this kind, data of a quite different variety is called for. We shall, for example, need to have information about specific skills and attitudes of the students who perform in a particular way, we shall call upon the assistance of experts who or tests which may be able to demonstrate that the failure of a particular teaching instrument is due to its use of an inappropriately advanced vocabulary, rather than to any lack of comprehensible organisation. Evaluation of this kind, however, is and should be secondary to evaluation of the kinds discussed previously, for the same reason that therapy is secondary to diagnosis.

11. Conclusions.

The aim of this paper has been to move one step further in the direction of an adequate methodology of curriculum evaluation. It is clear that taking this step involves considerable complication of the model of adequate evaluation study, by comparison with what has passed under this heading all too frequently in the past. Further analysis of the problem may reveal even greater difficulties that must be sorted out with an attendant increase in complexity. Complex experiments on the scale we have been discussing are very expensive in both time and effort. But it has been an important part of the argument of this paper that no substitutes will do. If we want to know the answers to the questions that matter about new teaching instruments, we have got to do an experiment which will yield those answers. The educational profession is suffering from a completely inappropriate conception of the cost scale for educational research. To develop a new automobile engine or a rocket engine is a very, very expensive business despite the extreme constancy in the properties of physical substances. When we are dealing with a teaching instrument such as a new curriculum or classroom procedure, with its extreme dependence upon highly variable operators and recipients, we must expect considerably more expense. The social payoff is enormously more important, and this society can, in the long run, afford the expense. At the moment its deficiency is trained manpower, so that short-term transition to the appropriate scale of investigation is possible only in rare cases. But the long-term transition must be made. We are dealing with something more important and more difficult to evaluate than an engine design, and we are attempting to get by with something like one percent of the cost of developing an engine design. The educational profession as a whole has a primary obligation to recognise the difficulty of good curriculum development, with its essential concomitant evaluation, and to begin a unified attack on the problem of financing the kind of improvement that may help us towards the goal of a few million enlightened citizens on the earth's surface, even at the expense of one on the surface of Mars.